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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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LAKE LEVELS.

Prof. Cleveland Abbe, chief meteorologist of the United States Weather Bureau, has been making a thorough study of the rainfall and the outflow of the Great Lakes which is of particular interest just now in connection with the opening of the Chicago sanitary canal.

Mr. L. E. Cooley, the well known engineer of Chicago, estimates 10,000 cubic feet a second as the probable outflow at Chicago. Prof. Abbe says: The effect on the general level of Lake Michigan and Lake Huron, practically the same body of water, will be to increase the present outflow about three inches annually, so that the future outflow will be about 70 instead of 67 inches a year.

"The effect upon the depth of water and navigation in Lake Michigan and Lake Huron," said Prof. Abbe recently, "and on the outflows of the Lakes St. Clair, Erie and Ontario will be barely appreciable and of no practical importance whatever in comparison with the uncertainty, the variability, and the great importance of the rainfall and evaporation. This slight drain upon Lake Michigan will be supplied by Lakes Superior and Huron, without affecting the surface level of St. Clair or Erie by more than a small fraction of an inch.

"The deepening of the channel through St. Clair and Detroit rivers will diminish the resistance to the flow of water, so that more will pass per second than before, provided the 'head of water,' namely, the difference in level between Lakes Huron and Erie, remains the same; but this will not be the case. The effect will be felt at first mostly in the very center of the channel, and the total annual discharge at first will be much less than 1 per cent more than at present. It may increase from 230,000 to 232,000 cubic feet a second, or from 67 to 67.6 inches per annum, but the final result will be the same as if we opened a wider and easier communication between the two lakes, and they will come to the same level and act as one lake, just as Huron and Michigan do now.

"As the influence of these two proposed engineering improvements on the regime of the lake is so small compared with that of the natural forces at work, it is especially important to accumulate and improve the climatological data, rainfall and evaporation, barometric pressure and winds, all of which affect the supply and the outflow."

NEW LAKE-BUILT TONNAGE.

Official numbers were assigned to the following named lake-built vessels by the Bureau of Navigation, Treasury Department, Washington, D. C., during the week ended

July 1st, 1899. For the new tonnage of the six months ended June 30th, see issue of the MARINE RECORD, July 6th.

STEAM.—Mae, home port, Toledo, O., official number, 92,953; signal letters, KPFJ; tonnage, 2,201 tons gross, 1,497 net; built by the Craig Ship Building Co., Toledo, for coast service. York State, Ludington, Mich., tonnage, 89 gross, 71 net; built at Grand Haven, Mich.

SAIL.—John Smeaton, Duluth, Minn., tonnage, 5,049 gross, 4,725 net; built at West Superior, Wis. Manila, Cleveland, O., tonnage, 5,039 gross, 4,667 net; built at Chicago, Ills. Matanzas, Port Huron, Mich., tonnage, 2,600 gross, 2,525 net; built at West Bay City, Mich. Prairie, Chicago, Ills., tonnage 7 tons gross and net; built at Ogdensburg, N. Y. Tartar, Chicago, Ills., tonnage, 12 gross and net.

A CHANCE FOR SHIPBUILDERS.

From Buenos Ayres it is learned that the Government intend calling for tenders for a steamship service to the South, consisting for the first two years of three steamers of not less than 1,500 tons each, and afterwards of five steamers of the same capacity. They are to run between Buenos Ayres or La Plata and Puerto Madryn, Cabo Raso, Bahia, Comerones, Rada Tilla, Puerto Deseads, San Julian, Santa Cruz, Rio Galegas, San Sebastian, Ushuaia, and other ports if required. Besides the steamer service, a coasting service with the above mentioned ports is to be established within one year after the former is arranged, consisting of at least ten sailing or steam vessels. The steamers are to leave Buenos Ayres or La Plata every ten days, and the round voyage must not take more than 30 days.

HYDROGRAPHIC OFFICE NOTICES.

LAKE ERIE.—Sunken wreck off Lorain.—June 29, 1899, the steamer Margaret Olwill foundered in Lake Erie, off Lorain. The wreck lies in 50 feet of water about 8 miles off shore.

LAKE SUPERIOR.—The Apostle Islands—Shoals westward of Bear Island.—Captain L. W. Stone, of the steamer Roumania, reports that when passing through the Apostle Islands and making a course to clear the Bear Island and Sand Island shoals, as reported by the U. S. S. Michigan in 1897, his vessel, drawing 17 feet of water, touched on a bar or shoal, presumably sand.

LAKE SUPERIOR.—Minnesota—Grand Marais Harbor—Proposed Harbor Improvements.—The following information has been received from Major C. B. Sears, Corps of Engineers, U. S. Army: The proposed extension of the breakwater on the eastern side of Marais harbor entrance, Minnesota, marked on H. O. chart No. 1426, has been abandoned. It is proposed to build a separate breakwater from the extreme point on the western side of the harbor entrance, 350 feet long in a southeast direction, to be finished in 1900. A good anchorage, deepened to 17 feet by dredging and extending over the entire eastern part of the basin, has been created.

M. OSTERGREN, a New York inventor, who is devoting much attention to liquid air, declares that the limit of speed for vessels driven by steam has been nearly reached, but that he expects to see vessels driven in other ways built before many years to make sixty miles an hour, and that he hopes to take up that problem himself before long. Future progress, he says, lies in the use of liquid fuels. If gasoline were burned under a boiler it would give double the steam-making result, pound for pound, that coal does but that would only be a step in the right direction. He would do away with steam engines and steam boilers altogether, and in their place use vapor engines burning liquid fuel.

IMPROVE THE ERIE CANAL.

While the governor, legislature and citizens of New York are dilly dallying over the past expenditures in attempts to improve the Erie canal, which it must be understood is a State ditch, as distinct from a Federal navigable waterway, the Dominion government has nearly completed improvements so as to give a fourteen feet draft in the St. Lawrence system of canals, and it is just possible that the St. Lawrence route with a draft of 14 feet of water, will be cheaper for the shipment of grain than any other route to the seaboard. It now seems certain that New York's export trade will be greatly diminished in the near future, while that of Montreal will correspondingly increase.

A Chicago authority has figured out the following freight rates to tide-water: The average rate for five years from Chicago to Buffalo was 1 37-100c a bushel for wheat. Double this for the Montreal rate, and we have 2 74-100c, which fairly represents what is possible, while 3c would be a liberal estimate. The rate from Lake Erie to Montreal would thus be 1 67-100c a bushel. Against this the rate from Lake Erie to New York city averaged for five years 4 54-100c. It is doubtful whether this cost of carrying across New York State can be materially reduced. This cost is made up of two items. The transfer charges at Buffalo for five years averaged 1 36-100c a bushel and embraced, besides elevator charges, a variety of small expenses. The rate from Buffalo across the State of New York by means of the Erie canal for five years averaged 3 18-100c. It is not believed that the Buffalo transfer charges, which are admittedly excessive, can be reduced below half a cent without actual loss, while the lowest estimates of actual cost on the Erie canal, after all contemplated improvements are made, are all above 2c a bushel. In other words, after the opening of the Soulanges canal next month, it will cost about 1 67-100c to carry a bushel of wheat from Lake Erie to Montreal, and about 3c to carry a bushel of wheat from Buffalo to New York city.

This comparison is so decidedly in favor of Montreal that it is destined to attract a large share of the traffic that now goes via Buffalo to New York, and yet that Erie Canal Commission, as well as the Commerce Committee on the state of trade and transportation in New York city are still in active (?) session. Let any portion of this trade once find its way to Montreal and it will be difficult to bring it back, and, while trade follows the flag, the flag seeks the best and most economical paths of commerce and transportation.

BIDS FOR HARBOR WORK.

Abstract of bids received in response to an advertisement for breakwater extension at Presque Ile Point, Marquette, Mich., opened July 6, 1899, by Major Clinton B. Sears, Corps of Engineers, U. S. Army, at Duluth, Minn.

Name and Address of Bidder.	For whole work 500 ft. in length.
1. *Fitzgerald & Norris, Duluth, Minn.....	\$ 68.00
2. Alex. Sang, Duluth, Minn.....	36,700.00
3. Powell & Mitchell, Marquette, Mich.....	27,000.00
4. Butler-Ryan Co., St. Paul, Minn.....	29,300.00

As Messrs. Powell & Mitchell submit the lowest bid, it is probable that Major Sears will recommend to the Chief of Engineers, U. S. Army, Washington, that their proposal be accepted.

*Evidently means per lin. ft. or \$34,000 for whole.

UNITED STATES Judge Hanford of Seattle, Washington, has ruled that while courts have no jurisdiction to review the acts of the Superintendent of Immigration, in excluding immigrants upon their arrival and before they have been landed, after an immigrant has entered the United States, he cannot be turned back except upon a judicial inquiry into his right to remain, and the law makes no provision for such inquiry.



DETROIT.

Special Correspondence to The Marine Record.

Capt. Wallace King, of Toledo, died at his home on Tuesday. He was about forty-five years of age and left a widow and one child.

The plant of the Excelsior Foundry, at Bay City, burned on Monday morning. Loss, \$12,000. The plant was included in the property recently purchased by the American Ship Building Co., but was still being operated by the former owners.

Thomas O'Day, a deck hand on the steamer Commodore, committed suicide by jumping overboard on Friday last. He had shown signs of insanity and had been confined between decks, but managed to escape and throw himself into the lake. His home was said to be in Buffalo.

Capt. Quinn, submarine diver, intends leaving for Toledo this week to see if the sunken dredge Champion, owned by Capt. James Rooney, is worth raising or not. Capt. Quinn is one of the most expert submarine workers in the business, and his judgment is seldom at fault in giving advice or undertaking work.

The citizens of Meaford, Ont., held a meeting June 20, to consider the agreement with the Botsford-Jenks Company, of Port Huron, for the erection of an elevator of 1,000,000 bushels capacity. The matter was favorably received, and the town council propose submitting a by-law for a bonus of \$25,000 for the elevator.

The wrecked steamer Harlem, ashore on Isle Royale, has been taken over by the Great Lakes Towing Co. as part of the assets of the Thompson Towing Co., who recently purchased her from the London underwriters for \$30,000. The expedition to float the Harlem is still at work on her with good hopes of releasing the craft.

The little Canadian ferry steamer Comfort, of Sombra, Ont., was the first boat caught evading the coasting laws this season. It appears that on July 4 she took an excursion from Marine City to Stag Island and then to Port Huron, which was in direct violation of the coastal navigation laws. The fines against the boat amount to \$3,200. The steamer was towed to Belle river and is in charge of a deputy collector of customs.

There are no tug lines here to be taken into the Great Lakes Towing Co., but options on the Port Huron, Boynton and Thompson lines have been secured this week by the valuation committee, consisting of Capt. James Davidson, Collier and Mr. Newman. The Thompson property is as good as purchased, but Mr. Thompson will continue to act as manager for this season. \$160,000 is mentioned as his figure for the fleet and accessories.

While the wooden steamer St. Paul was loading coal at Toledo on Tuesday, a leak was discovered in her bows. It is stated that after being laid up for three seasons she was fitted out again without being thoroughly calked. The St. Paul was formerly owned by Capt. Homer Durand, of Toledo, and a great deal of money has been spent on her for repairs, etc., but there is no making a new boat out of an old one. The St. Paul, 760 gross tons, was built in Marine City in 1868, and has outlived her class.

Dry dock work is booming these times. The Superior Ship Building Co., Superior, Wis., are pushing the contract on excavation work on their large, new dock. Capt. James E. Davidson has arranged all the preliminaries for a five hundred foot "hole in the ground." The Craig Ship Building Co., Toledo, are also ready to build one of the largest and best dry docks on the lakes, and this port will soon be in it for something to accommodate the fleet of 500-footers now under construction. Ashland, Wis., advertises for capitalists to take hold of a similar industry at that port, and offers a free site with other facilities to responsible parties, and there are two or three more ports to hear from relative to dry dock facilities and enlargement of existing plants.

THE Secretary of the Treasury has reversed the decision of the United States Local Inspectors of Steam Vessels at Puget Sound, by which they revoked the license of J. H. Brandow, for carelessness in navigating the American steamer City of Kingston when she collided with the British steamer Glenogie, in Commencement Bay. The Secretary of the Treasury decides that the law applies to such coastwise going vessels, and vessels navigating the Great Lakes as are "not under register." The vessel piloted by Brandow was sailing under register, and the Inspectors had no jurisdiction.—Coast Seamen's Journal, San Francisco. Who in the name of wonder is to take cognizance of infractions of the "rules of the road," if not the local inspectors? Whether the tonnage is registered or not, the officers hold licenses, the local inspectors furnish the licenses, and they alone, as the issuing power, can render their own acts null, void, defunct, pending an appeal.

BUFFALO.

Special Correspondence to The Marine Record.

The International Longshoremen's annual convention is being held here this week.

Duluth sent forward over two million bushels of grain last week, but receipts here have since fallen off.

Hingston & Son have nearly finished a new tug for Hingston & Wood. She will probably be launched next week.

The new steel steamer building at the Union Dry Dock to the order of the Western Transit Co. is now nearly all plated and work has begun on her decks.

Capt. Geo. McLeod, representing the underwriters, left here on Monday to release the Canadian steamer Sequin, ashore near Ashtabula. He towed her to Cleveland for repairs.

Capt. J. S. Dunham, of Chicago, visited here this week. He does not seem to "cotton" very much to the tug trust idea. Just the same, if his hand is forced, he will be obliged to go out of business, although it may be hard on the old pioneer.

A million bushels of grain is becoming quite the average receipts by lake at this port and it is all speedily taken care of since the strike has been settled. After all, the strike settled a good many old sores that were continually being prodded afresh and kept smarting.

President McMahon, of the International Longshoremen's Union, states that the Buffalo longshoremen have decided to co-operate with strikers at Waukegan, Ill., to the extent of refusing to load or unload boats sent to or from that port. Notice to that effect has been served on the Lake Carriers' Association committee.

It has been known that the Lehigh Valley Line would dispose of their small wooden steamers at a moderate figure. It is now reported that after selling out their interests in the tug company, the Barry Bros., Chicago, will take over the Oceanica, Clyde, Mercur and A. E. Packer. The R. A. Packer they already have.

A deflector has been placed over the fog horn at this port so that the sound will not be heard so distinctly shorewards. There has been many complaints made about the noise and apparently people don't care what danger life is exposed to while trying to make the port in thick weather. It is the same old Pharsaical sentiment, touched with "B— you, Jack, I'm all right."

The past week has been a brisk one for the excursion steamers and they have had a chance to rake in a few doubloons. The season is short at the best and the several boats can't be a bit too rapid if they are to clear all expenses for the year. It's a pity that they can't be turned to club house uses or some other such a scheme during the long winter months, to help pay the interest on their cost and upkeep.

The Insurance Company of North America has been awarded \$15,000 by the National Board of Marine Underwriters of New York for services rendered by the Company's wrecking tug North America and lighter Lottie, in floating the steamer Rhyndland when ashore in the Delaware early this year on the voyage from Liverpool. Repairs to the Rhyndland at Philadelphia cost \$75,000, and additional improvements \$55,000.

Some railroad iron which had been under water near the breakwater for nearly fifty years, was recovered this week. The rails were intended to be used in the construction of the Erie Railroad, and were thrown overboard to lighten a vessel in distress outside of the harbor in 1850 or 1851. They are but slightly rusted, and will readily sell for old iron. This shows what little effect the waters of Lake Erie have upon bare iron, excluded from the air.

Albert Smith, of Marine City, Mich., chief engineer on the whaleback Thomas Wilson, is under arrest, and Henry Manion, his second engineer, whom he assaulted, is in the hospital with a fractured skull which may result in his death. Manion joined the vessel on Tuesday, and when he appeared in the engine room he was visibly under the influence of liquor, and Smith directed him to leave the boat and sober up. This angered Manion and he attacked Smith. The latter seized a heavy wrench and dealt Manion a blow on the head, fracturing his skull.

Mr. J. A. Fairlee, Secretary of the Committee on Canals, has prepared a statement of the business of the New York canals, thus far this season, which shows that, in spite of the shovelers' strike at this port, the year's tonnage is larger than any year since 1896, and if the July record is fully maintained the total for the year should about equal 1894. The record for the present season to June 30 is 1,023,349 tons, against 753,641 for 1898; 971,859 for 1897; 1,101,861 for 1896; 897,904 for 1895, and 1,129,672 for 1894, with the latter tonnage about the average for several years previous.

The Local Inspectors of Steamboats at New York are preparing to hold an investigation into the causes leading up to the stranding of the American Line steamer Paris. The loss did not take place within their district and it would appear that the court should consist of the best talent at the command of the Supervising Inspector-General, viz., the Board, or a committee of the Supervising Inspectors of the Steamboat Inspection Service. Much interest will be taken in the findings of the court, and in the best interests of the mercantile marine it is to be hoped that this inquiry is but the precursor of others and that a regular system of wreck inquiries will be established in the near future.

CHICAGO.

Special Correspondence to The Marine Record.

The car ferry steamer Ann Arbor is receiving extensive repairs at Burger & Burger's shipyard, at Manitowoc.

The Graham & Morton Transportation Co.'s steamer City of Milwaukee has been equipped with a new, powerful searchlight.

The schooner H. C. Winslow, 239 tons net, built at Lorain in 1853 and hailing from this port, will be offered at marshal's sale, on a libel for a supply bill, Tuesday next, where she now lies at 23d street.

Lieutenant W. J. Wilson of the hydrographic office has an opportunity to make a trip around the world on the Hartford with Commander Hawley, but may be compelled by official duties here to forego that experience.

Capt. Cochrane has been transferred from the Goodrich Transportation Co.'s steamer Atlanta to the Georgia, Capt. Joseph Munger from the steamer Sheboygan to the Atlanta, and Capt. T. C. Bronson from the Chicago to the Sheboygan.

The new steel steamer Clarence Black, lately ashore on Round Island, Straits of Mackinac, was placed in dry dock at South Chicago for survey on Saturday. The bottom damage was found to be very light, and a few hours work put her in shape to carry cargo again.

The Chicago, Saugatuck & Douglas Transportation Co. have established a double daily service between Chicago, Saugatuck and Douglas. It is the intention of Chicago capitalists to build a large hotel at Saugatuck. The drawback to Saugatuck is the shoal water. This should be remedied at an early date.

General Passenger Agent Cory, of the Graham & Morton Line, who is noted for his thoughtful consideration of Cupid's interests, is now endeavoring to secure police protection for elopers to St. Joseph, the new Gretna Green. It is his idea not to allow parental interference or intimidation in the ceremony which consolidates two souls into one heart beat.

The Christopher Columbus now has a speed of twenty-one miles an hour, and averages nineteen and one-half miles per hour in her daily run between Chicago and Milwaukee. The Manitou's new engines have greatly increased the speed of that "greyhound of the lakes," and it looks as though the present season will be characterized by some record-making trips.

The schooner Lotus, Capt. Seator, reports being in a cyclone off the Foxes this week. The little craft was thrown on her beam ends and lost some light spars and her jib, but the cyclone part of it smacks too much of the Indian Ocean or snake storyettes to go on Lake Michigan. A waterspout or tornado yarn would have spun better, although all the daily papers swallowed it all right.

The Northern Michigan Trans. Co.'s splendid new steel passenger and freight steamer Illinois, built by the Chicago Ship Building Co., at South Chicago, has been put in service. She was built at an approximate cost of \$250,000. Her dimensions are 240 feet over all, 40 feet beam, 16 feet molded depth. Her engines are triple-expansion with cylinders 20 and 33 and 54 inches by 36 inches stroke, supplied with steam from two Scotch type boilers 12 feet 6 inches by 11 feet 6 inches, allowed a working pressure of 175 pounds. The engines are of 1,800 horse-power and are guaranteed to drive the steamer at a speed of 17 miles an hour. Two dynamos each provided with its own engine supply 500 electric lights and also a powerful searchlight. She has six watertight compartments. Her cabin is furnished in curly beech, with mahogany trimmings, which has a very handsome effect, her state-rooms are finished in cherry, and hot and cold water is supplied to all of them; their fittings and furnishings are the most modern obtainable, and she is a fine addition to the passenger service out of this port. She will run between Chicago and Mackinaw, on the Northern Michigan Co.'s regular route. Capt. Wm. Finucan, until recently master of the steamer City of Charlevoix, is in charge of the Illinois, Thomas Collins chief engineer, E. A. Wilson purser, Richard Donnelly steward. She averaged 19 miles an hour on her maiden trip.

With the boom of business in excursion business this season, two of the largest Chicago lake transportation companies have decided to increase their fleets next season, by building new steamers. The Lake Michigan and Lake Superior Line has decided to build a sister ship to the Manitou, which will, in all probability, be built by the Chicago Ship Building Co., at South Chicago. The new steamer will be put in the Mackinac Island service. The company will then be able to give the public a daily service between Chicago, Mackinac Island, Charlevoix and Harbor Springs. General Passenger Agent Berolzheimer admitted that the rumor of this contemplated movement was well founded. The Goodrich Transportation Co. is also seriously considering the necessity of building another steamer to go into the day excursion run between Chicago and Milwaukee, and if the plans materialize there will be a double daily excursion service between Chicago and Milwaukee next season. The plan is to have the whaleback continue her present schedule and have the new boat duplicate the latter at Milwaukee, thus giving Milwaukee people an opportunity to spend the day in Chicago and return home in the evening at popular \$1 fare. In such event the Virginia may be transferred next season to the Mackinac Island run. This, together with the Graham & Morton Line's prospective increase of its fleet, will increase lake tonnage with three of the fastest and best equipped passenger boats.

NEW WARE BUILDING

CLEVELAND.

Special Correspondence to The Marine Record.

The Standard Contracting Co. has chartered the tug C. E. Benham for the season.

The iron ore shipments from Ashland, Wis., this season are already reaching close up to the million ton mark.

Capt. Dunham, of Chicago, was here this week and stated that negotiations were still pending for the sale of his large fleet of tugs.

Another body picked up after the loss of the Margaret Olwill has been identified as that of Frank Hipp, late watchman of the Olwill.

General Manager D. E. Ford of the Superior Ship Building Co., was in the city this week on business relating to the two large steel tow barges to be built at Superior, Wis.

Mr. Herman, G. P. and F. A. of the C. & B. Line, who has been under the weather for some time, is again to windward and attending to business with his accustomed briskness and energy.

Capt. George McLeod, wrecking master for the insurance firm of Smith, Davis & Co., Buffalo, was here this week to hold a survey on the steamer Sequin after he released her from her stranded position near Ashtabula.

Dredging is the order of the day at this port and three powerful "mud catchers" are at work. There is to be no more groundings and vessels are to be given every facility, including dispatch, as well in entering as in leaving port.

Material for the construction of the fleet of 500 foot steel steamers is now being received at Lorain. There must have been some figuring ahead with the mills and furnaces when the American Ship Building Co. can secure material, while others are seeking for it in ton lots.

The dry dock at the yards of the Craig Ship Building Co., Toledo, is to be lengthened to 550 feet. The contract for excavation, etc., has been awarded to Geo. H. Breyman & Bros'. The Toledo yard has not yet been included in the plants managed by the American Ship Building Co.

The Times, Lorain, Ohio, always on the lookout for the best interests of that port, pertinently suggests the establishment of a life-saving station at, or adjacent to Lorain. The loss of several lives through the foundering of the Olwill has brought this question prominently before the citizens of that thriving neighboring port.

The steamer Mae, recently launched at Craig's shipyard, will take a cargo of corn to Kingston, and thence to New York, at which place her owners will take charge of her. The new steamer Porto Rico, now building at Craig's shipyard, will be ready to leave for the sea-coast some time during the coming fall.

The Great Lakes Towing Co., with an authorized capital of \$5,000,000, was incorporated at Trenton, N. J., to do a towing, wrecking and salvage business on the Great Lakes. Of the capital stock one-half is to be preferred, paying 7 per cent. non-cumulative dividends annually, beginning Feb. 1, 1900. The incorporators were nominally Jersey City men.

The schooner Sophia Minch, in spite of her age, is too good a vessel to leave her bones on the beach at Ashtabula. She has always been well kept up and was a favorite vessel of the late Capt. Minch, besides she is still on her first letter. Likely she will change hands, be jacked up, floated and repaired, she would make a good barge for the Tonawanda shoal water trade.

There are labor troubles again at the Conneaut ore docks. It appears that an assistant disputed the authority of Capt. E. Day, who has been a superintendent of ore docks for two or three generations. A matter of new blood, over-riding the old, whether it is right or wrong the labor bosses resented the change, others joined in sympathy. It is said that Capt. Day has resigned his position.

Wm. S. Mack, manager Boutelle Towing Co., Boston, Mass., visited Cleveland again this week and stated that he is under the impression that there will be plenty of lucrative business for this lake-coast towing company as soon as they get in fair working order. The tug Sweepstakes sent to the coast will be under repairs until the end of the month, at which time the tug Peter Smith will be ready to leave the lakes for coast service.

The Anchor Line steamer, China, had a slight brush with the end of the breakwater when coming into port on Tuesday, but beyond giving her passengers a little flurry, no damage was done. The Anchor Line is a great favorite with passengers, those who have traveled speak well of the line, and induce others to take the trip. For a Lake Superior cruise people require to book well ahead if they want to travel on the fine, steady old Anchor Liners.

I had the pleasure of meeting on Friday last Mr. Archibald Denny of the well known shipbuilding firm of Denny Bros., Dumbarton, Scotland. Mr. Denny was taken under convoy while here by former acquaintances and friends, including Mr. Robert Logan, naval architect and consulting engineer, Mr. James Wallace and Mr. R. L. Newman, of the American Ship Building Co., Mr. Richardson, of the Sherwin & Williams Paint Co., and other representative men in the marine line of business. Mr. Denny spoke very highly of the shipbuilding plant at Lorain, the works of the Walker Manufacturing Co., Cleveland City Forge, the Brown Hoisting and Conveying Machine Co., and the Sherwin & Williams Paint Works, as well as other important industries to which the courtesy of inspection was freely offered him.

The schooner George H. Warmington and the Canadian steamer Sequin ashore near Ashtabula since Sunday last were released and towed to this port for dry docking, survey and final repairs. The schooner Sophia Minch which stranded at the same time has been stripped as far as possible and it is now thought will be abandoned as a total loss. The Minch, 635 gross tons, was built at Vermillion, O., in 1873, she was still on her first letter, A2½ and valued for insurance purposes at \$8,000.

Malitoea and not Texas will be the name of the steel steamer that is to be launched from the Lorain yards of the American Ship Building Co., in August, for the Minnesota Steamship Co., which is represented by Pickands, Mather & Co. This is one of the two steamers bought while on the stocks from A. B. Wolvin and others. The other vessel, the Pennsylvania, retains the name given her before she was bought over. Malitoea corresponds with the names of all other vessels of the Minnesota line, which begin with M. and end with a.

Col. Jared A. Smith, Corps of Engineers, U. S. Army, in charge of the conservancy and improvement of rivers and harbors within this district, says that he had ordered a government dredge at Toledo to proceed to Sandusky and begin operations as soon as it can leave drydock. The contract for the dredging there provided that the work begin July 15, but unfortunately E. J. Pryor, who had the job, died at Houghton, Mich., July 4, and some delay will result due to the formality of notifying his bondsmen, they being required to carry out the contract.

I suggested last month that the Eureka built at the Lorain yards of the American Ship Building Co., for Messrs. Hawgood, and others of this port, might as well have applied for and been given signal letters at the time that her official number was granted, as it is the intention to take her to the coast for winter work. The Mae built by the Craig Ship Building Co., at Toledo for the Porto Rico Steamship Co., (Messrs. Miller, Bull and Knowlton) has had her signal letters granted. I mention this because it is not the custom to grant signal letters to lake vessels, but it is an essential for coast and ocean service.

The work of making a biological survey of Lake Erie under the auspices of the United States Commission of Fish and Fisheries, which was begun last year, will be continued during the coming summer. It will be in able hands, its scope broad, and much interesting information should be obtained and possibly much practical good achieved. The party will consist of Professor Jacob Reighard, of the University of Michigan, as director; Professor H. B. Ward, of the University of Nebraska; Dr. H. S. Jennings, of Dartmouth College; Dr. Julia B. Snow, of the University of Michigan; R. H. Pond, and a number of assistants. The station from which the survey will be made is at Put-in-Bay. The work contemplates, besides special research, a study of the fauna and flora of Lake Erie. Some of the special problems that it is hoped to solve are the growth of fishes, the food of young fishes reared from eggs, and the source of food of certain aquatic insects and other invertebrates.

Two cranes are under construction at the works of the Brown Hoisting & Conveying Machine Co., at this port for the William Cramp & Sons Ship and Engine Building Co., Philadelphia, and one has been placed in operation. It is driven by a single electric motor of about 150 H. P., of the Elwell Parker type, and built at their works in this city. The crane is mounted on a steel trestle, which runs alongside the ship under construction. The travel of the crane along this trestle is 725 ft., and the underside of the cantilever is 92 ft. from the ground. Its lifting capacity is 15 tons at 60 ft. out on either arm, and five tons at 95 ft. The total length of the cantilever arms in all is 202 ft. The gauge of the track along which the crane runs is 20 ft., and the crane has a speed up and down the trestle of from 500 to 700 ft., per minute against the wind. It hoists its maximum load 125 ft. per minute, or five tons 350 ft. per minute, or 1,000 pounds 700 ft. per minute, and the trolley can travel along the cantilevers at 800 ft. to 1,000 ft. per minute. It covers two battleships. At present there is on its right side a 13,000-ton battleship for the Russian Government, and on the left side is the new battleship Maine.

LETTERS AT DETROIT MARINE POST OFFICE.

JULY 12, 1899.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Augustine, Horatio,	Granville, Fred.
str. Fitzgerald.	Gibson Everett,
Anderson, William,	str. Bessemer.
str. Cherokee.	Glass, Jos. H., str. Nimick.
Brown, Thomas.	Henderson, Robert.
Bishop, Geo., bge. Halloran.	Highe, Claude,
Buck, Lewis,	str. City of Naples.
str. Sam Mitchell.	Jones, Wm., str. A. Laura.
Clark, George, bge. 134.	Kelly, John, str. Lagonda.
Drew, Angus, bge. Halloran.	Kirstere, Paul, str. Troy.
Diem, Arthur C.,	McKenzie, Geo. R.,
str. Peshtigo.	str. America.
Disseau, Frank,	Rickett, Ed., str. Cherokee.
str. Marquette.	Smith, Chas., str. Uganda.

FLOTSAM, JETSAM AND LAGAN.

Ten of the largest vessels in the world, representing a total tonnage of 100,000 tons, are now being built or overhauled at Belfast, Ireland.

John Stevenson has chartered the Fostoria and Jupiter to carry cedar from Escanaba to Detroit at \$1.75, which is an advance of 25 cents per cord.

The total expenses of the steamer Gaspesia for her winter's drifting in the ice of the Gulf of St. Lawrence will form an interesting record, the items so far known, including \$12,500 salvage for the steamer Kite and about \$12,000, wages to the crew, for which they libeled the ship at St. John's Newfoundland.

"Have you all you want for your trip?" enquired the official. "Yes," answered the captain of the warship, hesitatingly; "that is all I ought to expect." "What is there that you would like?" "Well, to tell the truth, I think I would like to have a few stenographers posted about the ship so as to have official and verbatim reports of any conversations which may occur."—Washington Star.

The United States Attorney-General, has 22 claims against the Compagnie Generale Transatlantique for loss sustained by the sinking of the Bourgogne under consideration and he says that the recent decision in the French courts in the case of similar claims is important. The decision establishes the fact that the French law is similar to the American law which is necessary to give the claimants ground for action in the United States.

While excavating a channel in connection with some dock extensions at Dunkirk, there was found buried under the sand an ancient man-of-war. It is believed to be one of the ships which composed the Spanish Armada which was engaged in the final battle off Gravelines in 1588. A number of Spanish ships are known to have been driven ashore and wrecked upon the coast between Calais and Dunkirk. Three old cannon have been recovered from the wreck at Dunkirk so far.

Speaking of exhibition mermaids, a correspondent of the London Telegraph says: "It may not be generally known that Japan exports these shams in assorted sizes, in glass cases, at so much a footrun. They are made of the body of a fish and the dried head of a monkey, so skillfully united that it is difficult to detect where one begins and the other ends. Of late the market for mermaids has been flat; at one time they were fairly common in the curiosity shops.

Much interest has been taken in English shipping and naval circles in the new torpedo boat destroyer, Viper, which is shortly to be launched on the Tyne, she is to be fitted with Parsons' turbine system and is expected to have a speed of 43 miles an hour. At present it is thought that the turbine system is inapplicable to ocean liners owing to the quantity of coal necessary, but experiments are being made which, it is hoped, may result in rendering possible the application of the system to ocean steamships. In that case the Atlantic will be crossed in three or four days.

It seems quite simple and natural like to name the spars of a four masted ship, as the fore, main, mizzen and jigger, giving the yards, sails, running gear etc., after the names of the masts. A difficulty seems to crop up though in naming the after stick and canvas carried by a five masted schooner, several of which are now building. The sail on the after jigger mast might be called—a ringtail chaser, poop disturber, a quarter lever, which might be abbreviated to mean the old man's necktie, collar or dido. Like to know what they will call it anyway; everything must have a recognized name, even to a bonnet, earrings or save-all.

A bottle was picked up a few days ago on the beach of Park Point, Duluth entrance, by C. O. Rosen containing a message saying that the writer had drowned himself in the lake off Two Harbors. It is signed by Fred Kenka, 417 Sharp street, New Orleans, La. The note is dated Lake Superior, June 15, 1898, and says that he is tired of life. The note also says that the writer's trunk is at the Commercial hotel, Two Harbors. According to the date on the note, the bottle has been floating in the lake for over a year. The message is written on a piece of paper torn from a memorandum book, in pencil, and evidently written up by an educated man.

During the recent hot spell a Washington housekeeper made her mid-week pilgrimage to the Center market, and, of course, everybody, sellers and buyers, showed the effects of the intense heat. To one good old colored mammy, selling garden sass, the lady spoke sympathetically about the heat and wound up by saying, "It is dreadful, isn't it?" "'Deed 'tis, chile; 'deed 'tis," chimed in auntie. "I tells you dat forty yeas ago, when de good Lawd made de wedder, we didn't have no sich sizzlin' days as dese; but sence dese here wedder bureau men's taken to fixin' it, dey jes' sends us anything dey likes, an' dey ain't skillful, chile, dey ain't skillful."—New York Sun.

The Inland Ocean, Superior, Wis., says that the officials of the Superior Ship Building Company have again been compelled to deny the reports that they would construct no more vessels at that place. General Manager D. E. Ford states that the material for two steel barges, duplicates of the new John Smeaton, the largest cargo carrier upon the lakes, has been ordered and that work will commence about July 20th. It is the intention to build the two barges together, one being situated on each side of the big crane. The boats are to be duplicates of the John Smeaton and the force of men that will be required will probably be upwards of twice as large as the crew that was employed last winter on that barge.

PRODUCTION OF IRON AND STEEL IN THE UNITED STATES.

According to the publication entitled "Statistics of the American and Foreign Iron Trades," for the year 1898, the production of iron and steel has greatly increased in the United States. In 1898 was witnessed the beginning of a movement in the iron trade of this country that has produced a revolution, the progress of which is being watched with the deepest interest by all exporting nations. This movement is no other than the consolidation of iron and steel firms, in order to create new corporations, which already control a capital estimated at more than \$500,000,000.

From these statistics it is ascertained that the exportation of iron and steel and manufactures thereof in 1898 amounted to \$82,771,550, against \$62,737,250 in 1897, and against \$48,670,218 in 1896 which shows an increase in two years of more than 70 per cent. Included in the exports of 1898 were 253,057 tons of pig iron, 291,038 tons of steel rails, 28,600 tons of ingots, blooms and billets, 18,510 tons of steel wire rods, and 24,195 tons of other steel rods and bars, 27,075 tons of steel plates and sheets, 74,665 tons of wire, 15,735 tons of cut nails and spikes, 13,714 tons of wire nails and spikes, and 34,038 tons of structural iron and steel. There were also exported 580 locomotives and large quantities of machinery made principally of iron and steel.

In the above figures agricultural implements are not included, the exportation of which amounted in 1898 to \$9,073,384, against \$5,302,807 in 1897 and \$4,643,729 in 1896. The importation of iron and steel by the United States has greatly diminished as a natural consequence of the enormous home production. Iron and steel, and manufactures thereof, were imported in 1880 in amounts aggregating \$80,443,362, and were exported only in quantities valued at \$15,156,703. In 1898 the amount of those articles exported represented a value of \$82,771,550, and the importation of the same was valued at only \$12,473,637, which shows that the conditions existing nineteen years ago have been entirely reversed.

The American manufactures of iron and steel compete favorably with the English, even in the domain of Her Britannic Majesty. There are shipped to-day from the United States to England and her colonial possessions considerable amounts of pig iron, steel billets, steel rails, steel plates, structural steel, wire rods, wire nails, and cast-iron pipe. Lately an order has been received for 60 American locomotives to be used on two of the great railways running from England to Scotland, the Midland and the Great Northern. As a remarkable fact we may add that the British Government has ordered in the United States a steel railroad bridge, consisting of seven spans 150 feet each, to be placed over the Atbara River in the Soudan. The Baldwin Locomotive Works, of Philadelphia, is now filling an order for 45 locomotives for railroads of India. The Pennsylvania Steel Company has a contract for the construction of a steel viaduct, 2,260 feet long and 320 feet high over the Gokteik Gorge, in India. This work will cost \$700,000. The Russian Government has ordered from the Phoenix Bridge Company, of Phoenixville, Pennsylvania, 12 steel railway bridges, etc., etc.

During the year 1898 the consumption of pig iron in the United States averaged a little over a million tons per month.

The exportation of iron and steel first exceeded the importation in value in 1893. Five years later, in 1898 the exportation of those articles exceeded the importation by \$70,297,913.

In 1898 the exports of agricultural implements amounted to \$9,073,384, against \$5,302,807 in 1897. Mowers formed more than two-thirds of total value of these exports, for they alone represented \$6,551,741.

The total production of pig iron in the United States during the year 1898 amounted to the enormous aggregate of 11,773,934 tons against 9,652,680 tons in 1897, which shows an increase of nearly 22 per cent. In the same year, 1898, the production of Bessemer steel ingots in the United States amounted to 6,609,017 tons.

The total weight of Bessemer steel rails in 1898 was 1,976,702 tons. The production of all kinds of steel in the same year was 8,932,857 tons.

It is estimated that the total consumption of iron ore in the United States during the year 1898 amounted to 21,193,000 tons.

TO INSURE THE SAFETY OF THE MAILS AT SEA.

ILLUSTRATED.

An American inventor has hit upon an idea for ensuring the safety of the mails, bullion and valuables that ocean-going steamers carry. It is an unsinkable, floating cylinder, in which all the mails, specie, jewelry, etc., are to be packed. This safe will be carried on the upper deck, and, if the ship should sink, the mail tank will float off into the waves, to be recovered sooner or later by a passing vessel. The safe is of metal, 22 feet long and 14 feet broad, fireproof, and, of course, absolutely watertight. It must float upright, and cannot turn turtle, for the heavy metals which it contains will all be stored at the bottom.

By night the safe will proclaim its presence on the surface of the waters by a flare light of phosphide of calcium, a flame of respectable dimensions, reaching to the height of four feet. The safe will also carry a foghorn and a bell, which will blow and ring automatically by the motion of the



RECEPTACLE FOR MAIL AND OTHER VALUABLES.

float. The deck, or top of the safe will also carry a flagstaff and an equipment of flags.

Overinsurance.—A policy of marine insurance provided that it should be void if other insurance was made on the vessel exceeding \$50,000. The policy also provided that, in the event of a deviation from certain waters, the policy should be suspended, and take effect on return to such waters. The tug, desiring to go outside of the waters designated, applied to defendant company for permission and indorsement on the policy, which was refused. Thereafter it took out a policy in another insurance company, which, with the policies then existing, would have exceeded the prescribed limits. The latter policy provided that, if the assured had other insurance prior in date, the company should be liable only for so much as the amount of the prior insurance was deficient towards covering the property insured. This prior insurance was the total value of the vessel. Held, that as such latter policy could take effect only on the suspension of the other policies on a return within the limits, there was at no time insurance in effect more than the agreed amount, and the policy sued on was not void for overinsurance. *St. Paul Fire & Marine Ins. Co. vs. Knickerbocker Steam Towage Co.*, 93 Fed. Rep. (U. S.) 931.

NOTES.

ON the 26th of June, the Bethlehem Steel Company formally took over the property, etc., of the Bethlehem Iron Company, which latter company has leased its works, etc., to the former company. The officers of the Bethlehem Steel Company are: Robert P. Linderman, President; Edward M. McIlvain, Vice-President; Abraham S. Schropp, Secretary; C. O. Brunner, Treasurer; R. W. Davenport, General Superintendent; Owen F. Leibert, Chief Engineer; Charles P. Coleman, Purchasing Agent.

ACCORDING to a news agency, a remarkable project for traveling by means of air ships is attracting attention at San Francisco. It is said that elaborate offices have been opened by the Aerial Navigation Co., which advertises that it will convey passengers from America to the Paris exposition in thirty hours. It is asserted that this will be done by means of three immense air ships, each 425 feet long, which are being built. More than the proverbial grain of salt will be required for the proper assimilation of this item of news.

THE Italian government is said to be greatly concerned respecting the unanticipated growth of the shipbuilding and navigation bounties which are the result of a law made in 1896. In the budget for the year 1897-8, the sum of 4,388,000 lire was provided, but the amount which actually had to be paid was 7,588,000 lire; in the budget for the current

year the vote for these bounties was 4,888,888 lire, but it is regarded as certain that not even 8,000,000 lire will suffice. The president of the Budget Committee of the Chamber reports that a change in the law is necessary in order to protect the treasury from a drain which is assuming serious proportions.

CASSIER'S MAGAZINE for July has a number of articles especially interesting to maritime men. There is quite a long and comprehensive one about electricity in marine work and its growing applications in the United States, by S. Dana Greene, the well-known electrical expert, with 21 illustrations of the latest devices for various purposes. The steam turbine, also fully illustrated, is described in detail by Hon. C. A. Parsons, the inventor. The strength of the British Navy, with splendid full page engravings of the latest types, is discoursed upon by Archibald S. Hurd. The story of smokeless powder is related at length by Hudson Maxim, and the mine defense of Santiago Harbor is described by Lieut. Capehart. These are only some of the features of the table of contents.

CANADA, in an official report of far reaching interests, announces that next August will be completed and opened the Soulages canal, 14 miles long, which will complete her missing link in ship canal navigation between the Great Lakes and the Atlantic ocean. She will then have

a waterway 14 feet in the shallowest part, from the head of Lake Superior to the mouth of the St. Lawrence. In her canals which make this possible, Canada has expended \$62,000,000, or \$12 per capita for the entire population, and considers it money well spent. It makes more imperative than ever the 20 foot channel our own country contemplates from the Great Lakes to the ocean. Not that we need fear the warlike possibilities of Canada's canals, for a ton or two of dynamite would disable them for a year or more, but because we cannot afford to be outclassed in far sighted enterprise by a country so much smaller and weaker in nearly every way. The day is coming when the vessels as large as any now on the lakes will load direct for Europe and Africa at Duluth, Chicago or Marinette and another lot do the same for Asia and the Philippines, going by the Chicago ship canal, Mississippi river, Nicaragua canal and Hawaii. The day may not be as far distant as many people suppose, and the sooner we get its benefits the better for all.—The Eagle, Marinette, Wis.

THE C. M. Hill Lumber Co., Duluth, Minn., has just received a handsome naphtha launch from the Gas Engine and Power Co. and Chas. L. Seabury & Co., consolidated, Morris Heights, N. Y. She is built of cedar and has brass trimmings throughout.

NOTICE TO MARINERS.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., July 7, 1899.

LAKES ONTARIO AND ERIE.—Notice is hereby given that, during July, 1899, the following-named gas-lighted buoys will be established in lakes Ontario and Erie:

Galloo Island Shoal Gas Buoy, No. 1.—On or about July 10, a gas buoy, painted black, numbered 1, and showing a fixed white light, will be established in place of the black, second-class nun-buoy, No. 1, on the westerly side of the shoal, and about 1½ miles west-northwesterly from Galloo Island Light-House, easterly end of Lake Ontario.

Kelleys Island South Shoal Gas Buoy, No. 2.—On or about July 20, a gas buoy, painted red, numbered 2, and showing a fixed white light during periods of 10 seconds separated by eclipses of 10 seconds' duration, will be established in place of the red second-class nun buoy, No. 2, on the southerly end of the shoal, and about 2¾ miles westerly from Carpenter Point, Kelleys Island, and 3¾ miles S.E. ¾ E. from South Bass Island Light-House, westerly part of Lake Erie.

Peach Orchard Point Gas Buoy.—On or about July 20, a gas buoy, painted red and showing a fixed white light, will be established in place of the red, 20-foot spar buoy, at the elbow of the rocky shoal extending northeasterly from Peach Orchard Point, westerly side of the entrance to Put-in-Bay, northerly side of South Bass Island, westerly part of Lake Erie.

Bearings are true; miles are statute miles.

By order of the Light-House Board:

FRANCIS J. HIGGINSON,
Rear-Admiral, U. S. Navy, Chairman.

DOMINION OF CANADA—ONTARIO.

I. NEW BUOYS IN WESTERN APPROACH TO KINGSTON.—Three 35-foot spar buoys, were on the 15th instant, placed by the chief engineer of the Department of Marine and Fisheries in the western approach to Kingston harbor, foot of Lake Ontario, to mark the deep water channel north of Snake Island.

(1) A black buoy moored in 30 feet water off the north extremity of the shoal surrounding Snake Island.

(2) A buoy painted in red and black horizontal bands, in 30 feet water, off the west end of the small middle ground between Snake Island shoal and Seven-acre shoal.

(3) A red buoy in 26 feet of water off the east end of Seven-acre shoal.

SAILING DIRECTIONS.—All deep draft vessels are advised to use the channel marked by these buoys. In coming down from Lake Ontario, they should make a course for Nine Mile point lighthouse until Seven-acre shoal buoy bears N.E. They can then pass anywhere between the two last described buoys with nowhere less than 26 feet water, and find good water to within 1½ cables of the west end of Snake Island. After passing Snake Island shoal black spar the only dangers are Penitentiary and Myles shoals, which are marked by red and black spars.

At night vessels can make for Nine Mile Point light leaving it a little on the starboard hand; by bringing Nine Mile Point and Pigeon Island lights in one astern the alignment will lead safely between the Middleground and Seven-acre shoal. As soon as Snake Island is abeam, they can bear down towards Kingston, bringing the north shore close on board about the penitentiary to avoid Penitentiary and Myles shoals. After passing these, the alignment of Barriefield range lights leads up the harbor.

II. PROPOSED CHANGE IN POSITION OF SNAKE ISLAND SHOAL LIGHTHOUSE.—A cylindrical steel and concrete pier has been built near the south end of the shoal surrounding Snake Island, at a distance of 850 feet S.E. by E. ¼ E. from the existing lighthouse on the shoal. It is intended to erect on this foundation a lighthouse during the present season to replace the old one which will be dismantled.

III. AMENDED DESCRIPTION OF CORUNNA RANGE LIGHT BUILDINGS.—The front range light building at Corunna, east side of river St. Clair, was enclosed some years ago. It is now a square wooden enclosed building, with sloping sides, painted white, surmounted by a small red roof. Its height is 42 feet from the base to the vane on the lantern. The light is shown from a window at the top of the channel side of the tower.

The back building is a similar building. The back light is elevated 69 feet above the level of the river. In other respects the particulars in the list of lights are correct.

IV. HAND FOR HORN AT PORT ARTHUR.—The light station at Port Arthur has been supplied with a hand fog horn which will answer signals from passing vessels in thick weather.

PLATFORM BUOY SOUTH OF BEAR'S RUMP ISLAND, GEORGIAN BAY.—A platform buoy, surmounted by a pyramidal slatwork, painted black, and a white flag 20 feet high, has been moored in 4¼ fathoms water off the south end of Bear's Rump shoal, Georgian Bay.

Lat. N. 45° 18' 25". Long. W. 81° 34' 43".

The buoy bears S. 45° W. and is distant 3¼ cables from the nearest and most southerly point of Bear's Rump Island. Vessels approaching from the eastward should not have Cove Island light north of the buoy or the latter to bear anything west of W. by N. by ¼ N. after Half Moon Island becomes hidden behind the island.

If approaching from the west or north west, the buoy should not be brought to bear south of S.S.E. ½ E.

F. GOURDEAU,
Deputy Minister of Marine and Fisheries
Department of Marine and Fisheries, Ottawa, Canada, June 21st, 1899.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset, by reversing the east bearing given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting. The bearing may be taken when the Sun's center is on the horizon, rising or setting. The three elements which may be obtained by taking these amplitudes are the quantities known as local attraction, variation and deviation.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
July 15.....	E. 29° N. = N. 5¾ E. = N. E. by E. ¾ E.		
July 18.....	E. 28° N. = N. 5½ E. = N. E. by E. ½ E.		
July 21.....	E. 28° N. = N. 5½ E. = N. E. by E. ½ E.		

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
July 15.....	E. 30° N. = N. 5¾ E. = N. E. by E. ¾ E.		
July 18.....	E. 29° E. = N. 5¾ E. = N. E. by E. ¾ E.		
July 21.....	E. 29° E. = N. 5¾ E. = N. E. by E. ¾ E.		

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
July 15.....	E. 31° N. = N. 5¼ E. = N. E. by E. ¼ E.		
July 18.....	E. 31° N. = N. 5¼ E. = N. E. by E. ¼ E.		
July 21.....	E. 30° N. = N. 5¾ E. = N. E. by E. ¾ E.		

LAKE SUPERIOR, LAT. 48° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
July 15.....	E. 33° N. = N. 5 E. = N. E. by E.		
July 18.....	E. 32° N. = N. 5½ E. = N. E. by E. ½ E.		
July 21.....	E. 31° N. = N. 5¼ E. = N. E. by E. ¼ E.		

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

RECENT MARINE PATENTS.

Patents issued up to July 4, and reported specially for the MARINE RECORD.

627,979. Life-boat, H. S. Carley, Boston, Mass.
628,010. Propelling and steering apparatus, Isador Lehman, Cleveland, Ohio.
628,129. Propelling mechanism for ships, Moriz Stoehr, New York, N. Y.
627,562. Propeller, William Wood, Banta, Cal.
627,585. Steam steering apparatus, J. P. Manton, Providence, R. I.
627,660. Dredging apparatus, A. K. Stone, Boston, Mass., assignor to the Pan-American Dredging Company, same place.
627,662. Steam dredge or shovel, G. E. Turner, Marion, Ohio.
627,844. Device for lowering or raising smoke-stacks, J. D. Dailey, White Plains, N. Y.
627,860. Feathering-blade for paddle-wheels, T. H. A. Lukatis, Berlin, Germany.
627,951. Dumping-scow, Joseph Atkins, Chatham, Mass.

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone
Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo.....	1,220,000	1,341,000	494,000	5,000	231,000
Chicago.....	5,342,000	5,308,000	738,000	345,000	183,000
Detroit.....	168,000	91,000	13,000	11,000	.....
Duluth.....	5,393,000	575,000	845,000	89,000	20,000
Fort William, Ont.	1,850,000	.....	.....	.....	.....
Milwaukee.....	63,000	3,000	3,000	.....	20,000
Port Arthur, Ont.	150,000	.....	.....	.....	.....
Montreal.....	201,000	200,000	510,000	3,000	15,000
Toledo.....	1,586,000	861,000	128,000	4,000	.....
Toronto.....	56,000	.....	12,000	.....	9,000
On Canal.....	689,000	9,000	202,000	14,000	172,000
On Lakes.....	1,654,000	1,093,000	214,000	.....	163,000
Grand Total.....	34,009,000	12,963,000	5,652,000	727,000	977,000
Corresponding Date, 1898.....	12,516,000	22,855,000	5,940,000	878,000	374,000
Increase.....	422,000	.....	.....	5,000	79,000
Decrease.....	.....	907,000	299,000	.....	.....

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

INHABITANTS of the coast towns of England are alarmed over the encroachments of the sea. The pretty little village of Dunwich was formerly a large town, and held no small place among the commercial cities of the kingdom. All its churches and monastic institutions have been washed away by the sea, and a large forest has followed the buildings,

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR MARINE RECORD.)

Pleading in Admiralty—Sufficiency of Libel for Collision.—A libel to recover for personal injuries received in a collision must set out the facts which constitute the negligence, and also the injuries complained of. *Jacobsen et al. vs. Dalles, P. & A. Nav. Co.*, 93 Fed. Rep. (U. S.) 975.

Salvage—Amount—Recovery by Crew.—The personal services of the crew having been comparatively small, and rendered without danger, an allowance of \$120 was made them, the value of the lumber after its delivery in San Francisco being about \$7,200. *Peacock et al. vs. Three Million Feet of Lumber et al.*, 93 Fed. Rep. (U. S.) 983.

Admiralty—Action for Repairs and Supplies—Costs.—The record owner of a vessel during the time repairs were made and supplies furnished to her is not entitled to recover his costs in an action brought against him to recover for such repairs and supplies, though he is successful in defeating recovery by showing that he was not in fact the owner. *Hall et al. vs. Witter*, 93 Fed. Rep. (U. S.) 977.

Maritime Law of Foreign Nation—Action for Wrongful Death.—Courts of admiralty of the United States will not enforce the maritime law of a foreign nation, giving a right of action for death caused by a tort, on the ground that the alleged cause of action arose on a vessel of that nation, where it was at the time on the high seas, outside of waters subject to the jurisdiction of such nation. *Rundell vs. La Compagnie Generale Transatlantique*, 94 Fed. Rep. (U. S.) 366.

Maritime Liens—Equipment for Vessel—Necessity for Delivery.—Under the Pennsylvania statutes, either Act June 13, 1836, as amended by Act June 24, 1895, or act April 20, 1858, relating to liens for work done or materials furnished in the building or equipment of vessels, a delivery of an article made for the equipment of a steamer, either by placing it in the vessel or delivering it to the owners, is essential to create a lien on the vessel therefor. *Hays vs. James Rees & Sons Co.*, 93 Fed. Rep. (U. S.) 984.

Shipping—Liability of Carrier for Shortage in Cargo—Effect of Bill of Lading Signed by Master.—The rule that the master of a vessel has no authority by virtue of his position, either actual or apparent, to sign a bill of lading for cargo not actually received on board, applies when there is only a deficiency in part through mistake, and the owner cannot be held liable, either by the original consignee or an indorsee of the bill of lading, for such a shortage, where the quantity actually received is delivered. *American Sugar Refining Co. vs. Maddock*, 93 Fed. Rep. (U. S.) 980.

Shipping—Limitation of Liability by Vessel Owners—Act of 1884.—The act of June 26, 1884 (23 Stat. 53), permitting the owner of a vessel to limit his liability for indebtedness incurred on behalf of the vessel, contemplates only liabilities incurred during the last or pending voyage, allowing a reasonable time after knowledge of the liability within which to surrender the vessel, providing it is, at the time of surrender, in practically the same condition as at the close of such voyage; and a vessel owner cannot incur indebtedness for supplies furnished to a vessel during an indefinite number of voyages, and then, after the vessel has been lost or destroyed, relieve himself from personal liability therefor by offering to surrender its remains to the creditor. *The Puritan*, 94 Fed. Rep. (U. S.) 365.

Liability of City for Maritime Torts.—The rule of the maritime law, which holds the owner of a vessel liable for injuries inflicted through negligence or misconduct in its navigation to the extent of his interest in the vessel, is not based on the relation of master and servant, but rests upon the fact of ownership alone, the vessel itself being regarded as the offender; and the principle on which a city is held to be exempt from liability for negligent acts of its firemen, the reason being that they are not its servants in its corporate capacity, has no application to the case of a marine injury resulting to another vessel from the negligent handling of a fire tug owned by the city. For such an injury the tug itself is liable, and the city may be held responsible in a court of admiralty to the extent of the value of the tug. *Henderson vs. City of Cleveland*, 93 Fed. Rep. (U. S.) 844.

Collision—At the time of a collision in the Narrows, the channel had been mined by the government, leaving an irregular passage, marked by buoys, which varied in width from 100 feet between the middle buoys to 1,100 and 1,250 feet between the upper and lower ones, respectively. Patrol boats were stationed at either end, and, on the steamer C coming in, she was directed to go to the west side of the passage, and, on passing the middle buoys, changed her course to port until she was near the line of the west buoys, when she straightened. Tug G. with a tow, followed by the Ceres and tow, on coming down, were notified to keep to the east, and the G. signaled the C. that she would pass on the east side, which she did; but the Ceres without signaling, passed diagonally across the passage, so that the last scow of her tow swung close to the west buoy, and was run into it by the C. Held, that the collision was caused by the failure of the Ceres to keep to the eastward as directed, and that the C. was not liable for the injury. *The Chalmette*, 93 Fed. Rep. (U. S.) 500.



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CLEVELAND, O., JULY 13, 1899.

WHAT a ridiculous stage we must have reached when shippers can step in and dictate the ability of a vessel's hull.

WHO was it that said the \$1.00 freight on ore was only to be a memory. The pestiferous pessimist could surely not have been studying the best interests of vessel owners. Others, who re-mouthed the sentiment, were no doubt (ignorantly) antagonistic to the carrying trade.

THE North German Lloyd Steamship Co. announce that the Kaiser Wilhelm der Grosse made her last trip to the eastward in five days, twenty hours, fifty-five minutes, and covered a distance of 3,190 miles. Her average time was 22.62 knots as against her best previous record of 22.56 knots.

THE present freight rates will point out to a good many owners and managers of cargo boats the indiscretion of chartering the majority of their tonnage too far ahead. The "wild" rate seldom falls below season figures and when it does there is nothing in it for the owners of floating property.

IT appears that the greatest obstacle to a canal at Nicaragua is the coast at the entrance on the Atlantic side. The locality is a succession of shoals, which make it unsafe for a vessel of any size to attempt a passage. No satisfactory explanation of how this is to be overcome has been vouchsafed, and skilled engineers have expressed the opinion that it will cost more to master this difficulty than to build a canal. Civil engineers are all right on shore work, but it requires a spice of hydrographic talent and other merits akin thereto to give us the best possible coast approach, harbors and channels.

THE Britishers must feel more than miffed at the success of the German wrecking and salvage company in releasing the steamer Paris after they had given up the job. It was thought that the John Bulls were gifted with a little of that dogged pertinacity, obstinacy, or perseverance, which so frequently leads to success in these undertakings. The wrecking and towing talent of that New York in England - Liverpool, had the first chance at her, and when the Dickey Sams were licked, London took a hand; the Cockneys backed down in favor of the Germans, who, without any blare of trumpets, systematically conducted arrangements and gave Capt. Watkins the pleasure of sailing once more into port, even if it was on the decks of a bottomless tank.

A VESSEL'S CLASS.

Since the advent of iron and steel vessels on the lakes, classification and rating has undergone a marked change, but not more so than has been experienced in times past in other localities and countries.

It is but a few years ago, or, practically at the time mentioned in the foregoing, that the surveyors for the general agents of insurance companies, and, in many cases, the local agents themselves, acted from a personal knowledge of the structural condition of the craft under consideration, and so advised their superiors, notwithstanding, a list was printed and vessels rated, solely for the guidance of underwriters, and, as this work was purely for the benefit and advantage of the assurers on hull, freight and cargo, they met the expense of surveying, rating and publishing their own text book, (or rather the vessel owner paid it in increased premiums for insurance, surveying fees, traveling expenses, etc.,) and then regarded the same as the archives of office, part of their stock in trade, and the basis on which other people's money could be risked, in a word, as a guide to business. Much in the same manner as London Lloyd's originated.

This seemed to be a fair enough arrangement as between the assurer and assured, although, let it be remembered, that the latter met every cent of the expenses, while the underwriter made all of the conditions, giving to the owner as a *quid pro quo* the privilege of insurance, and such, in a measure, is the custom at present where wooden bottoms are concerned or considered.

The loss of two large, modern built, metal steamers, neither of which held an adequate classification certificate, built, as builders were building at the time, under no properly authorized rules of construction, nor independent supervision, but duly listed in the domestic, or rather, underwriters tonnage record, called attention in due course to the necessity of vessels being furnished with a certificate of classification which meant what it said, something between, and, independently superior, to a builder's guarantee or an underwriter's arbitrary rating, as, after construction, the builder was no longer a factor in the question and consequently the vessel's character rested solely between her owners and underwriters.

This situation had to be met, the world over, generations ago, and, on the lakes within the past decade. Rules for the construction, tests of material, supervision while building, etc., etc., were, and are yet, being formulated. Many lake-built vessels are now classed in duly authorized and universally recognized associations for the classification of shipping, acting independently as between builders, owners and underwriters, although, in a measure, conjointly with each interest, yet, distinctly outside the purview of their influences. Forming a trio of inferentially, antagonistic elements, yet, working in full harmony and accord for the immediate, present and ultimate benefit of each representation, and recognized as a Classification of Shipping, whose certificate is at once a builder's receipt, an owner's guarantee, an underwriter's authority, and a shipper's business guide.

Condensed, brief and thus necessarily superficial as the foregoing must be, we can simply point out the unique, and to some people, the amazingly influential position held by a society publishing a register of the classification of shipping. Let but the slightest suspicion of undue interest, influence or collusion as between builder, owner or underwriter "smirch the skirts" of the classification society, its accredited agents or surveyors, and its reason of being is questioned, confidence is lost, and its certificate of a ship's character rendered void, such are the recorded results.

Asked, our opinion regarding the predominance of one interest over the others, or the active participation of the three in one, in all that concerns the business of floating property, we would say, that without the neutralizing effect of the premeditations and disinterestedness of the acknowledged classification society, chaos would be liable to ensue.

A WRECK COURT OF INQUIRY.

THE RECORD has so frequently pointed out the advantages to be derived through the information secured by holding an official inquiry into the loss, or serious stranding of steamers, that we have almost despaired of seeing our views adopted in the very near future, although our advocacy is bound to prevail eventually.

If there was any private hearing, there has been no public record made of the causes which led up to the stranding of three large steamers on the north shore of Lake Superior last fall, two of which were built of steel, and one of wood.

The steel steamer Harlem is still resting on her bed of rocks, with wreckers busy at work on her, as with the Paris ashore on the Manacles, coast of Cornwall, England.

We may say that wreck Courts of Inquiry are not in fashion in the United States, underwriters accept a partial, constructive, or actual total loss, owners agree to the terms, (sometimes after considerable loss, detention and expensive litigation it is true) and the masters as well as other officers get over the matter as easily as possible in "noting a protest" and, as regards the local inspectors of steam vessels, it is not to be thought for one moment that they are or would be in any haste, zealous or eager to prove ignorance, carelessness or any incompetency on the part of those whom they had licensed as being eligible to hold the various diplomas, issued after a competitive examination held before themselves.

It is, therefore, with some degree of interest that we note what Syren and Shipping, London, has to say, on this particular subject at this time, and, in the following strain:

"As to how the Paris came to run ashore near the scene of the ill-fated Mohegan's disaster, it is just one of those happenings which passeth man's understanding. At all events, we would prefer to wait for the disclosures of an official investigation before blaming either Company or navigating officers. As for the speed question, it is impossible to disguise the fact that the public will have it, and gladly pay higher rates for the privilege (sic) of traveling by the fastest ships."

"As the Paris was owned by a foreign company it is not within the scope of the Board of Trade (British) to hold an enquiry into the circumstances of the disaster, but there is no doubt that this duty will be undertaken by the United States Board of Inspectors of Steam Vessels, as it is most desirable, in the interests of underwriters, seafaring men and the traveling public, that some explanation be arrived at as to why this vessel was run on to the Manacles. A searching enquiry might throw some light collaterally upon the Mohegan disaster."

Syren and Shipping may have to wait a while longer for the results of this official investigation and searching enquiry which is to be of such benefit to the several interests enumerated. The RECORD has been waiting for a considerable time, yea, lo, these many years, to publish just such information, but we can't get it you know, nor are we likely to for a dog watch, or decade or two.

If the United States Steamboat Inspection Service would only tell us how these accidents, casualties and losses take place, others could be duly and publicly warned of their impending danger. Isle Royale, on Lake Superior, has fetched up a few craft, so has the Manacles, now, where does the further similarity come in? as well as a host of other nice little questions that the RECORD would like to find out from the Steamboat Inspection Service.

WITHOUT going into the detail of compiling a table of casualties showing each case, we may briefly remark that there has been more accidents this season through men working around the decks of a vessel falling into or down hatchways than ever has been known before. In point of fact, it is questionable if the combined casualties of several seasons would aggregate a larger number of cases of injury to people by falling in the hold of a vessel than has occurred during the same period of time this season. Those who have a due regard for the lives and limbs of their employes would do well to remember that their vessels' decks are now almost all hatchways and that when engaged in loading or discharging with all the hatches off and the decks littered up, it is no easy matter for people to guard against accidents. In keeping clear of other work being carried on above the deck, the open hatchways form not one, but a good many pitfalls for the unwary to stumble into. Instructions given by managers and owners to their officers not to neglect any precautions necessary to obviate or minimize these accidents would be a work of humanitarianism, also, in some cases, save annoying litigation, likewise, ultimately go far in reducing the personal or employes' accident insurance premiums where owners are so insured, as they are in the majority of lake fleets. Of course a vessel should not be required to carry a half cargo of accident preventative fittings and appliances for semi-occasional use, at the same time, life is sweet, even to the much abused roustabout, and, in perhaps a greater degree to others who are not abused or abuse themselves. An individual, winding up his span of life as a cripple, through the inadvertence, ignorance or parsimony of his fellow man, carries an untold judgment against the originators or perpetrators of the cause of his loss or decline of physical powers, as likewise, of any of his natural senses and bodily or mental attributes.

OF course it is not a matter to get muchly exercised about as it appears to work no direct harm to any particular citizen or class of citizens of the United States, yet, there is a certain satisfaction to the average individual in being able to quote figures accurately, or accurate figures. In printing an advanced report of the shipping of the United States, as sent out from Washington last week, there were several statements to which exceptions might be taken. The total tonnage documented for the year was given us, but, when the compiler of those statistics can take, and has deducted, 19 tons from 30 tons, leaving a remainder of 10 tons, we can but doubt the authenticity of the aggregation of figures on tonnage. Again, during the past year we have found a large number of vessels of 5 tons and upwards, built a score of years ago, and only entered on the lists this year, all of which goes to swell the aggregate, without having any bearing (except, perhaps, a misleading one) on the annual tonnage built during the fiscal year, so also may the figures on average or mean tonnage be inaccurate. Furthermore, we were informed from Washington that in certain trades our large sailing vessels were endeavoring to compete with foreign cargo steamships. Well! we all know, and especially in the lake trade, the extent and results of sail competing with steam. We are as credibly informed that the largest fore and aft vessel ever built, the most notable vessel, is the steel schooner John Smeaton, against which is pitted a French built sea-going vessel of smaller tonnage. To carry the comparison to its proper issue both vessels should be placed in mid-Atlantic. With an equal amount of inaccuracy we were made to say that for the first time in our history steel was the principal material of construction in our annual output of rigged vessels, when in fact, iron has not been used in any shipyards, to any extent, for several years past, and not at lake shipyards during the past three years. In the foregoing, we have covered, perhaps, the main portions of these peculiar statistics, and to which further allusion may be made in the immediate future.

CAPT. WATKINS, late master of the American Line steamer Paris, has taken the onus of stranding that vessel entirely upon his own shoulders. After leaving Cherbourg a beam bearing was taken at 6:38 p. m. of Cape La Hogue light and 57 minutes later, or at 7:35 p. m. the Casquet light was abeam. In shaping a course to sight the Lizard, distant 131 miles, Capt. Watkins took his departure from the time of taking a beam bearing of Cape La Hogue instead of that of the Casquets, thus placing his ship about 18 miles astern of her actual position, or the distance between the first and second beam bearings, viz., Cape La Hogue and the Casquets, say 18 miles. Thus endeth the apparent mystery, and this, too, without any further inquiry, as the captain, acting the man all through, gave great praise to his subordinate officers and crew, explained the cause of the stranding, and took his two years' suspension from office like the sailor he is should do. A stiff upper lip to you, Captain Watkins; errors are made momentarily; you are not the only man that's piled up a tank, and after your well-earned rest may your future success afloat exceed the most sanguine expectations of your life. Our other and previously written remarks on this subject still stand to the fore, only, in omitting the name of the Paris, another wreck can be substituted, no official inquiry being necessary in the case of the Paris.

AGAIN has the United States Steamboat Inspection Service stultified itself in its rendition of a verdict in the Paris case. Capt. Watkins acknowledged his error by mail and the local inspectors at New York say that he shan't take charge again for at least two years, so there now! He can't even ship as mate, to earn a living at his life-long calling, for an officer takes charge of a deck, and is full of responsibilities. Capt. Watkins was his own judge and jury, counsel, witness, technical adviser and nautical assessor, he exonerated his officers, from the chief down, and in the fullness of his plenary powers graciously condescended to give praise to all of his late subordinates, thus outwitting the local inspectors at New York and making their inquiry a bye play, an ordinary everyday burlesque, a hair splitting comedy for other maritime nations to giggle over. Let's show why. At any moment from the time of leaving Cherbourg till stranding on the Manacles, Capt. Watkins was not the only man on board who was compelled to know the position of the vessel. The local inspectors in opening and closing the case innocently assumed that he was, or is the case to be re-opened by mail and each individual separately

sentenced in the same way. After all, p'raps such a method would be an admirable way of continuing the burlesque so as to further excite the risible faculties of foreigners who have been intently watching for the finale.

IN our issue of June 22nd, the appraisal of several auxiliary naval vessels was noted, and the date for receiving bids for their sale placed on July 19th. A possible purchaser asked the RECORD if these vessels would be entitled to all privileges under the United States flag, and on the 27th ult. we addressed a similar inquiry to Hon. John D. Long, Secretary of the Navy. His reply under date of the 10th inst., is as follows: "As regards the question of American registry for the Scipio, if purchased by an American citizen, you are informed that the Treasury Department, which has had this matter under consideration, has decided that the issue of a register to the Scipio, as a vessel of the United States, would be in violation of the law, as the explicit prohibition in section 4132, of the Revised Statutes, forbids the registry of this vessel unless Congress shall specifically authorize such action."

RELATIVE to the large number of vessels recently added to the grain carrying fleet at Chicago, we are pleased to have the assurance of the managers of the classification societies that these vessels retain their former rating. Their class has in no way been altered, nor is it within their province to discriminate, for or against, vessels after a careful and faithful inspection has been held. It appears that shippers wanted more grain tonnage at the going rates, and they persuaded underwriters, their representatives, or general agents, to insure a class of tonnage which had, earlier in the season, been ruled out of the grain carrying trade. The situation, therefore, was brought about by the shippers, with the acquiescence of the underwriters, and without any change in the vessel's class or rating.

THERE seems to be an excellent opening for one or two more compass adjusters for work on the lower lakes. It has been found quite difficult at times to secure the services of a compass regulator, as, when wanted, say at Buffalo, the "sea-clock adjuster" might be at the other end of the lakes. On the other hand, and in some cases, the less the compass is attempted to be adjusted, or juggled with, the better the courses that are made from point to point, but this does not refer to careful and accurate adjusting, and where deviation cards are made out for the masters, showing the residual errors existing after the magnets are placed.

LAKE FREIGHTS.

Lake freights have an upward tendency, Chicago paying $2\frac{1}{4}$ cents on corn, an increase of $\frac{1}{4}$ cent for the week. The Duluth figure remains at $2\frac{3}{4}$ cents and the market light, with vessels looking for 3 cents. Toledo has chartered tonnage at $1\frac{3}{4}$ cents on wheat to Buffalo. The all-rail competition is at an end, line boats, used in the general cargo trade, are now carrying grain at the increased rate and shippers are furious at the lack of tonnage.

The iron ore rates are firm at 90 cents Duluth-Ashland, 80 cents Marquette and 75 cents Escanaba, but, as the Chicago grain rate now equals 90 cents on Escanaba ore, chartering at the latter port is light. Charters have been made at 85 cents Marquette, also up to \$1 Duluth, but these figures are not slated as the going rate.

As with the unsteady quotations on iron ore, so with the coal rates, nominally 50 cents is paid Lake Erie ports to Lake Michigan, and 40 cents to Lake Superior with the usual advance to minor ports. It was reported that the Buffalo rate to Lake Michigan had gone up to 60 cents and a raise from Ohio ports was looked for but has not eventuated, however, the market holds very firm and may go to 60 cents, all Lake Erie ports to Chicago or Milwaukee, although shippers strongly protest against the advanced figures, as it is clearly their business so to do. At the same time, tonnage that is free to charter realize their value and look to be paid a fair living rate of freight.

Lumber rates are firmer at \$2.25 per M. feet, head of Lake Superior to Lake Erie, than at any time during the season, though a large consignment was fixed ahead at \$1.87½.

Iron ore is king, and, until the rush of shipments is over, there can be no slump in other bulk cargo rates. There seems to be a feverish desire to get every pound of ore possible sent forward and boats under season charters are kept on the move, with dispatch as the keynote and watchword, even Northern Line general cargo boats have begun toting ore and lake car-ferry boats pressed into service.

RE-RATING LAKE TONNAGE.

CHICAGO, July 3rd, 1899.

To the Editor of the Marine Record:

In looking over the columns of your valuable paper, dated June 29th, page 11, I find you quote from an article sent out by a Chicago news association, explaining why a revision of the grain carrying vessels was recently made. You then in very caustic terms criticise the action of all parties concerned in said revision, going so far, as you say for illustration, as to compare a fifteen year old broken-down plug of a horse to a ship.

You, however, neglected to inform your readers if a horse could be repaired to the same extent as a ship. I take it for granted that the majority of your readers, myself among the number, know very little about a fifteen year old plug, and what repairs would be necessary to restore one to a five-year old class, and for our information I would ask you to kindly tell us if such a plug as you describe for illustration, was fitted with new forefoot, hawse pipes, stem and stern post, keel and garboards, frames "forward" and "aft," new decks and deck frames, new rails, stringers and stanchions, new top side planking, thoroughly re-fastened, calked inside and out, and given two coats of Sherwin & Williams paint, whether you would still ask us to recognize him as the same old plug.

You are probably familiar enough with lake classification to know that all wooden vessels—if A1 when built, at the age of seven years pass into the A1½ class by rule, and if A1* when built, at the age of ten years pass into the same class, and right here I want to state that in my opinion we to-day, have the most intelligent and careful inspection and classification of vessels we have ever had on the Great Lakes.

The gentlemen at the head of the two classification societies recognized by lake cargo underwriters, attended the revision meeting for the purpose of assisting the committee, by giving them classes and condition of vessels, and permit me to inform you that they performed their duties in a most painstaking and thorough manner. The class of no vessel was raised except where it was proven by personal inspection, sufficient repairs had been made to warrant it, and was only done in half a dozen cases then pending, and which would have been raised even if no revision of tariff had been made.

The classification societies had nothing to do with the tariff put in force at the opening of navigation; they simply furnished the underwriters with a list of the vessels and their ratings, and a committee of those gentlemen, who I believe met in New York, divided those vessels into three classes, as follows:

First—All regular line steamers not classing below A2, all A1 steamers any value, and all A1½ steamers valued at \$40,000 and over.

Second—All A1½ steamers valued at \$25,000 and under \$40,000, all A1 tow barges valued at \$35,000 and upward.

Third—All A1½ steamers under \$25,000, all A2 steamers, any value, all A1 tow barges valued under \$35,000 and all A1½ and A2 tow barges any value.

This tariff was manifestly unfair to the vessel owner, for the reason that it degraded a great many worthy vessels, and this being properly laid before the gentlemen who originally arranged the tariff this spring, they were wise enough to see the injustice of said tariff, and fair enough to appoint a committee to revise it.

Personally, I do not believe the value of a ship should prejudice her rating. The latter as I understand is based exclusively on condition and construction all over the world. The injustice of the tariff recently revised was caused by the degradation of vessels on account of value, irregardless of condition. The owner of the wooden ship has been the "under dog" so many years that he is getting pretty well used to being jumped upon.

I was very much surprised to see the RECORD take a kick at him. If you have any grievance against the classification societies or the underwriters, have it out with them by all means, but please don't draw your sword on the owner, when nothing but simple justice to the owners of worthy wooden ships has been done.

Very truly yours,

D. SULLIVAN.

Our criticism was directly from a vessel owner's standpoint and against the action of those who telescope the value of people's property up or down, at their own arbitrary will, pleasure, or whim. Ship classification means something, or nothing, is held both ways, the world over to-day, and graded according to the certificate of classification a vessel holds. For the purpose of securing and insuring cargoes there are some certificates that would hardly be recognized by keen shippers and underwriters, others are above par. If our correspondent can show but one vessel out of the re-classified fleet, which received the rebuild that he speaks of, it will be fully granted that she deserves to retain her former class, and even to be classed up to her original rating, as neither the old ceiling nor outside planking would be fastened on the new frames. Therefore, she ought to have been given an enhanced class on the completion of her practical rebuild.

Ed.

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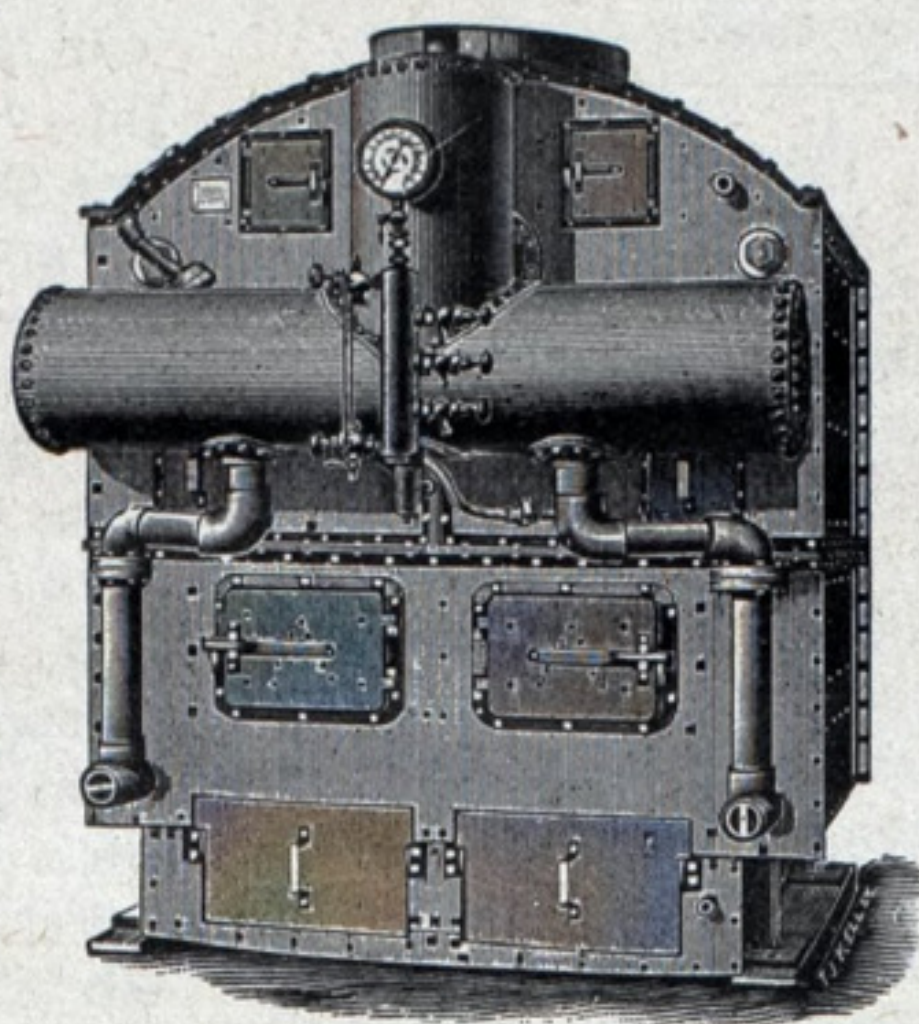
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TRAFFIC THROUGH THE ST. MARY'S FALLS CANALS.

The statistics of traffic through the St. Mary's Falls Canals (United States and Canadian), are becoming of more direct value to commerce and transportation interests each month, and the canal officials are to be given due credit for their accuracy in compiling same.

In glancing over the figures regarding coal, it is found that the hard coal shippers have sent through to Lake Superior points, 68,695 tons of anthracite more than was shipped in June of last year, while the movement in soft coal shows nearly 100,000 tons less, or, accurately, 96,293 tons less of bituminous coal has been sent to Lake Superior during June than in the corresponding month last season, this amount would furnish thirty-two cargoes of 3,000 tons each if the June shipments of last season had been kept up.

The figures on iron ore are perhaps the most expressive, as we find that the June shipments this year exceeded that of last season by 1,400,328 tons. These figures are large, although it was widely known that iron ore shipments were vastly in excess of last season's at this time.

In grain other than wheat, the excess for last month amounted to 1,287,624 bushels, and in wheat to 3,264,061 bushels, so that it can be plainly seen that the all-grain shipments have been, to say the least, accelerated.

STATISTICAL REPORT OF LAKE COMMERCE THROUGH
CANALS AT SAULT STE. MARIE, MICHIGAN AND
ONTARIO, FOR THE MONTH OF JUNE, 1899,

EAST BOUND.

ITEMS.	U. S. Canal.	Canadian Canal.	Total.
Copper, net tons.....	14,500	802	15,302
Grain, bushels.....	2,606,509	531,595	3,138,104
Building stone, net tons.....	350	350	700
Flour, barrels.....	677,490	149,633	827,123
Iron ore, net tons.....	2,073,094	225,187	2,298,281
Iron, pig, net tons.....	5,712	890	6,602
Lumber, M. ft. B. M.....	156,373	1,115	157,488
Silver ore, net tons.....			
Wheat, bushels.....	3,757,473	1,497,830	5,255,303
Unclassified freight, net tons.....	13,529	6,325	19,854
Passengers, number.....	1,582	1,166	2,748

WEST BOUND.

ITEMS.	U. S. Canal.	Canadian Canal.	Total.
Coal (hard), net tons.....	104,865	23,665	128,530
Coal (soft), net tons.....	323,225	55,801	379,026
Flour, barrels.....		5,500	5,500
Grain, bushels.....			
Manufactured iron, net tons.....	21,252		21,252
Salt, barrels.....	49,322	8,500	57,822
Unclassified freight, net tons.....	42,774	4,714	47,488
Passengers, number.....	2,278	983	3,261

East bound freight, net tons..... 2,916,015
West bound freight, net tons..... 585,003

Total..... 3,501,018
Total craft through United States canal..... 2,309
Total craft through Canadian canal..... 559

Total registered tonnage through U. S. canal..... 2,698,558
Total registered tonnage through Canadian canal..... 400,949

The corresponding totals between June 1898 and the figures given above, show that 598,834 tons came forward, east-bound, last month, in excess of that carried during the previous June, but there was a decrease of west-bound shipments amounting to 47,281 tons, which shows that there was a decrease in all other shipments east, but, reducing the disparity, as shown in the June movement of iron ore, and an

increase on other carriage, besides soft coal, which as we have said, lacked nearly 100,000 tons of the quantity sent forward last year.

The combined totals of east and west-bound cargoes, show an increase for this year of 551,553 net tons, all, and more, of which was east-bound. The total number of craft locked through the canals in June 1899, was 2,868, showing an increase of 300 over last year, and an increase in the total registered tonnage of 475,524 tons.

ARCHITECTURAL AND STRUCTURAL STEEL DRAFTSMAN.

NAVY DEPARTMENT, Washington, D. C.

The United States Civil Service Commission announces that on August 15, 16, 17, 1899, examination will be held in any city in the United States where the Commission has a board of examiners, to establish an eligible register for the position of Architectural and Structural Steel Draftsman, Navy Department.

From the eligibles resulting from this examination certification will be made to the position of Architectural Draftsman Proficient in Structural Steel Work as applied to Architectural Constructions in the Bureau of Yards and Docks, Navy Department.

Persons desiring to compete should at once apply to the United States Civil Service Commission, Washington, D. C., for application blanks (Forms 304 and 375,) which should be properly executed and promptly forwarded to the Commission, at Washington, D. C.

LIQUID FUEL.

Whether carboniferous fuel has any geological relation to oil fuel is not proved. The theories in regard to the chemical origin of coal and oil are not dissimilar, and although much evidence has been given in favor of an organic origin of petroleum, opinions differ so much on the point that it is impossible to come to any definite conclusion; certain it is that both coal and oil are sources of energy, and that both require the application of heat to set that energy at work. And, looking at the question in a popular manner, it almost looks as though nature, foreseeing the vast and increasing drain which would be made upon the coal deposits of the world, had supplemented these by a limitless supply of petroleum—a servant more efficient, more manageable, and more portable than the fuel which the last few centuries have come to regard as the life of industry. Two facts are clearly apparent. The coal resources of the world, at any rate from a commercial point of view, are diminishing. The oil supply the world over is increasing with a marvelous rapidity. Country after country, district after district is being exploited for oil, and the more one seeks the more one finds. It is the coming source of power; one might almost be led to say that the next age would be the age of oil. Russia and the United States still yield increasing quantities, Roumania, Galicia, on the Continent; Assam, Burmah, Borneo, Java, in the Orient; and Africa and Canada, are likewise prolific in this direction, while in lands unmentioned signs are not wanting that oil is lying beneath the surface, merely waiting for an outlet to be provided. This, says the Petroleum Review, is not vain imagining; the statements are actual fact, and should do something towards reassuring those who look with some apprehension to the future in regard to fuel requirements.

POWER FROM THE RISE AND FALL OF THE TIDES.

William Reed, who for the last year has been perfecting a contrivance intended to utilize the power in the rise and fall of the tides, has just received letters patent for his invention from the Governments of the United States, Great Britain, France, Germany, Italy, Russia, Japan. Mr. Reed's contrivance—a rising and falling pier—has interested some scientific men and many inventors who have made a special study of the problem which he believes he has solved, and its usefulness as a motive power will be tested at an early day. Inventors have heretofore found a great stumbling-block to success in the interval, usually about an hour, at the turning of the tide, when the power assumed to have been furnished becomes inoperative. All previous plans, therefore, have been attempts to control the tides only for a short period of time; and this and other difficulties have made them failures from the start.

Mr. Reed believes he has successfully overcome this part of the work, in fact, the interim, he claims, is the very period of time when his floating pier operates to the best advantage. He says that his contrivance will keep continuously at work twenty-four hours a day. This pier or boat is to be built in two compartments; one which resembles an immense scow, is the boat proper, but directly upon this, with an altitude precisely as high as the tide in the locality in which the boat is built, is to be superimposed a tank, which is to be filled with water and emptied as occasion demands. A place upon the coast is to be selected, either where there is a creek or small river near by, or where one can be artificially built. Where this creek runs into the ocean, a dam is to be built, against which one side of the rectangular dock is to be conveniently placed. At the opposite side is to be built another reservoir.

Inasmuch as the pier is buoyant, there is, of course, no difficulty in making it rise or fall with the tide. Mr. Reed's ingenuity has been in continuing, as he claims, this rise and fall when the tide itself is stationary; and for this purpose he uses the superimposed tank and creek. At dead low tide, when the boat would naturally be at a standstill, the water in the creek, which has been dammed up, is emptied by opening the gate, and flows into the tank. Of course, the weight of the water causes the boat to continue to sink; and, as the water flows in to the height of a full tide in the course of an hour, the downward passage of the boat is very rapid. At the end of this period, the tide again has influence, and the dock with its cargo of water, rises to its full height in the usual time. As soon as the natural rise is over, the gates are now to be unlocked, and the water permitted to flow into the reservoir. As the water flows out, the pier is relieved and continues to rise, the speed being increased for reasons already made plain. By the time all the water has run out, the natural tide begins to fall again, and the operation is repeated. It will, therefore, be seen that the boat, if it fulfills the expectations entertained of it, will rise and fall just twice as high as the tide.

The power thus generated is utilized by a huge lever. A shaft of steel is sunk directly through the boat into the ocean bed. Upon this is swung the lever, one end of which is made fast to the boat itself. Thus every motion of the boat will affect the lever, which rises and falls responsive to the rise and fall of the dock. One end of the lever is provided with a section of immense cog-wheel, which, in turn, con-

nects with a series of smaller cog-wheels, by which the power is transmitted. The boat, therefore, performs about the same part in the new contrivance as the weights do in the clock. Its rise and fall may be as imperceptible as the rise and fall of the clockweights, but its power in turning wheels will be transmitted in the same way.

It is freely admitted that similar projects, when on paper, looked feasible and of great practical benefit, but, when put into mechanical shape were found to be failures. Mr. Reed is fully prepared to demonstrate the actual working and practical value of his invention preparatory to a stock company being formed for its further exploits.

PEACEABLE MERCHANTMEN.

It is greatly to be regretted that the representatives of Great Britain, France and Russia in the Peace Conference did not feel at liberty to fully discuss the principles of exempting from capture private property at sea. England's opposition is the marvel of the world. Her situation is one which would seem to make it more for her interest than for that of any other nation that the commerce of the seas should be undisturbed by the depredations of war. Continental nations, among them Russia, Italy and Germany, have at one time or another accepted the principle and have some of them embodied it in treaties. The most eminent publicists and text writers are earnest advocates of exemption. It is logical and in accord with the humane spirit of modern times, which tends more and more to look upon war as an affair between governments which should cause the least possible molestation and loss to non-combatants. Yet the United Kingdom unaccountably puts herself in the position of chief objector to the proposed reform. Lawrence says in his recent work on international law that in her wars with France, having destroyed the commerce of her enemy and added millions of tons to her own merchant marine, "her rulers and people became fully convinced that it was far more important to her to retain the liberty of striking at the enemy's merchantmen than to secure the safety of her own." This may explain, but it does not excuse. We might expect of Spain such a rooted adherence to a worn-out idea. We do not expect it of enlightened Britishers. What is more, she takes a position completely opposed to our own, which we have consistently held since the foundation of the republic.

EASTERN FREIGHT REPORT.

Messrs. Funch, Edye & Co., in their weekly freight report to the RECORD, state as follows:

The firmer tone of our freight market, to which we referred in our last, has continued, but fixtures show a numerical reduction as against the preceding week's business,

owing partly to the intervening holidays, partly to the generally firmer attitude assumed by owners of the not excessive tonnage heading for this coast. Charterers for grain, in the interim, appear unable to advance their limits beyond the figures previously paid, although the enquiry is somewhat broadening, and appears likely to lead to an advance in rates, shortly. Whilst other trades are not very active, the enquiry from the Gulf continues brisk, and rates sufficiently good to cause the shifting there of tonnage from ports North of Hatteras, in preference to accepting rates as offered from our range of loading ports.

Business in sailing tonnage for last week was restricted by our National holiday, as well as by the continued scarcity of offerings on the part of owners. The volume of business accomplished since our last is, therefore, necessarily small, but our market remains firm, and no change in rates has taken place.

ANOTHER LONE NAVIGATOR.

Capt. Firmin Moindron, a California navigator is making unique preparations for going to Paris to attend the big Exposition next year. He is going to sea in a trunk. Not the ordinary trunk, but the trunk of a tree.

A Frenchman by birth and a Californian by adoption, he is prompted to his novel venture by a desire to show the people of his native land, as well as the world at large, what great things in the vegetation line exist in America. He is going to make a boat out of the trunk of a huge redwood.

"I will build," he says, "a schooner from one of the largest trees in Humboldt county. The hull shall be one solid piece, simply the trunk of the tree hollowed out and hewn into shape. I will take a tree from twenty-two to twenty-four feet in diameter for my boat.

"She shall be forty-eight feet long, fifteen feet beam and ten feet deep, and will be rigged as a schooner. I figure that it will take me two or three months to make it. I will sail from San Francisco go around Cape Horn, or through the Straits of Magellan, across the Atlantic and down the Seine to Paris. I hope to be ready to start in time to reach Cape Horn about the last of December of this year, so that I will arrive in Paris next May.

"I think of sailing 16,000 miles in the trunk of a tree. To do that and show all the world at the Exposition what wonders California can produce I am willing to risk my life." Perhaps so, *cum grano salis*.

A statement prepared at the Navy Department, July 3, shows that during the fiscal year just closed 16,123 men enlisted in the Navy of whom 2,147 were enlisted for the war only. There were 798 boys under instruction.

THE WRECK OF THE PARIS.

The report of Captain Watkins, late of the wrecked steamer Paris, submitted to the local inspectors at New York, says:

"I was master of the steamship Paris when she left Southampton at noon on May 20th last, bound for New York via Cherbourg.

"I regret to say that the casualty was owing to an unaccountable error on my part. It is about 131 miles from Cape La Hogue to the Lizard and the run between these points would, I calculated, occupy six hours and 45 minutes. Unfortunately, I reckoned the time on this basis for coming up with the Lizard from 7:35 a. m. when abeam of the Casquets instead of from 6:38 p. m. when abeam of Cape La Hogue, and the vessel was thus really 18 miles ahead of the position I was acting upon. In addition thick weather over-land obscured the Lizard lights. I attribute the stranding to the above cause, and take upon myself full responsibilities for it."

Captain Watkins makes a statement of his sea service since 1851, during which time he has crossed the Atlantic nearly five hundred times, and to his record as navigating officer of the Paris which was the cruiser Yale during the war with Spain.

The report of the United States local inspectors at New York is in part:

"We have carefully read the report made by Captain Watkins, in which Captain Watkins took the entire responsibilities of the disaster upon himself in making a mistake in the time when he passed the Casquets, thereby overrunning the distance.

"We find that the report is very meagre in details. Giving all due considerations to the matter, we are under the opinion that Captain Watkins has not acted with the necessary care and attention requisite in the navigation of his vessel which a master should have used, and we therefore suspend his license as a master of ocean steamers for a period of two years. (Signed.) Thomas H. Barrett, Peter C. Petrie, United States Local Inspectors."

Shipping—Construction of Charter Party—Risk of Collision.—A provision of a charter party that "the owners shall pay for insurance on the vessel," to be given any effect as between the parties, must be construed as requiring the owners to insure against all such losses as would otherwise fall on the charterer; and, where the owners failed to procure insurance, they made themselves insurers, and cannot cast upon the charterer the burden of paying damages recovered against the vessel for collision, against which they might have insured. The Barnstable, 94 Fed. Rep. (U. S.) 213.

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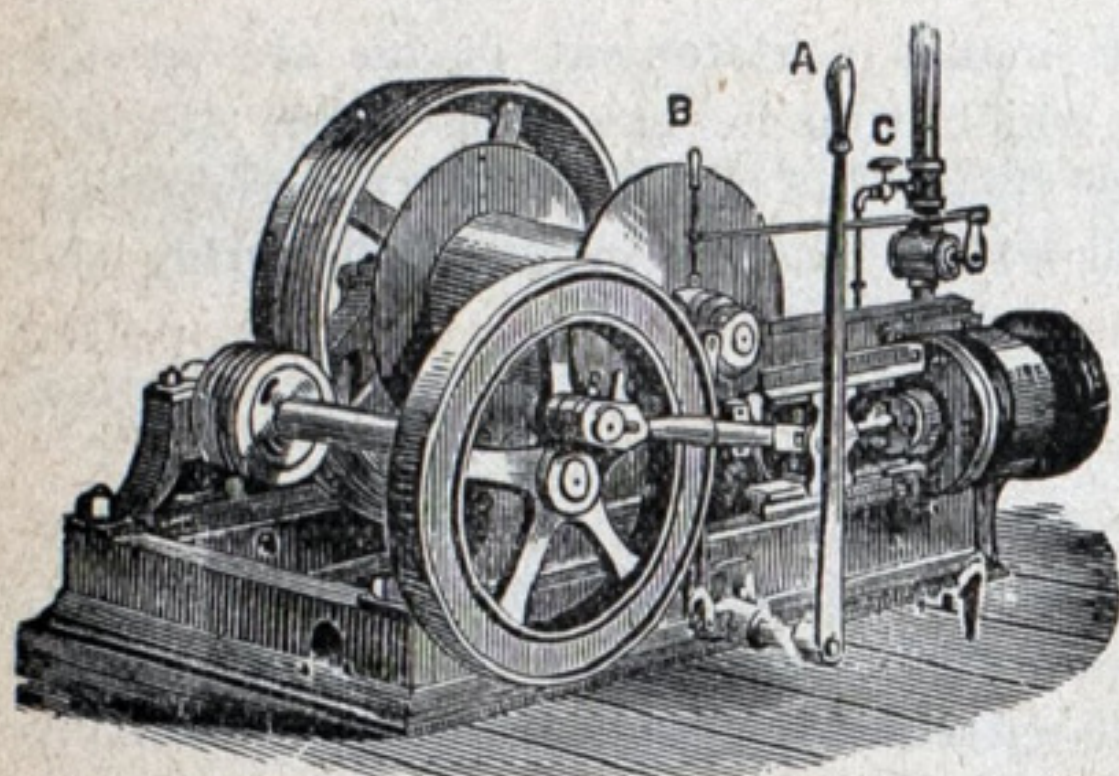
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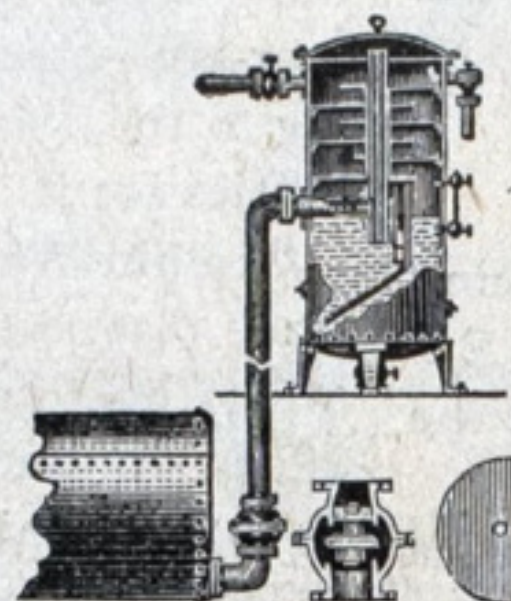
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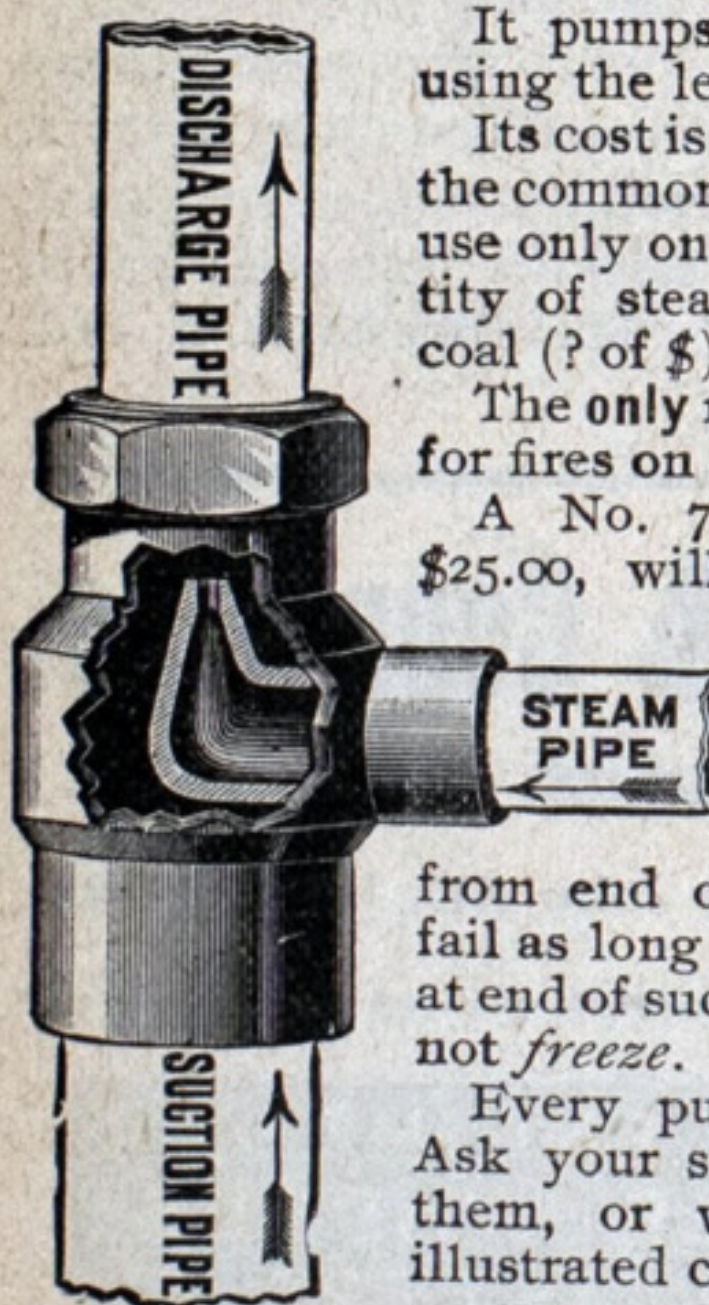
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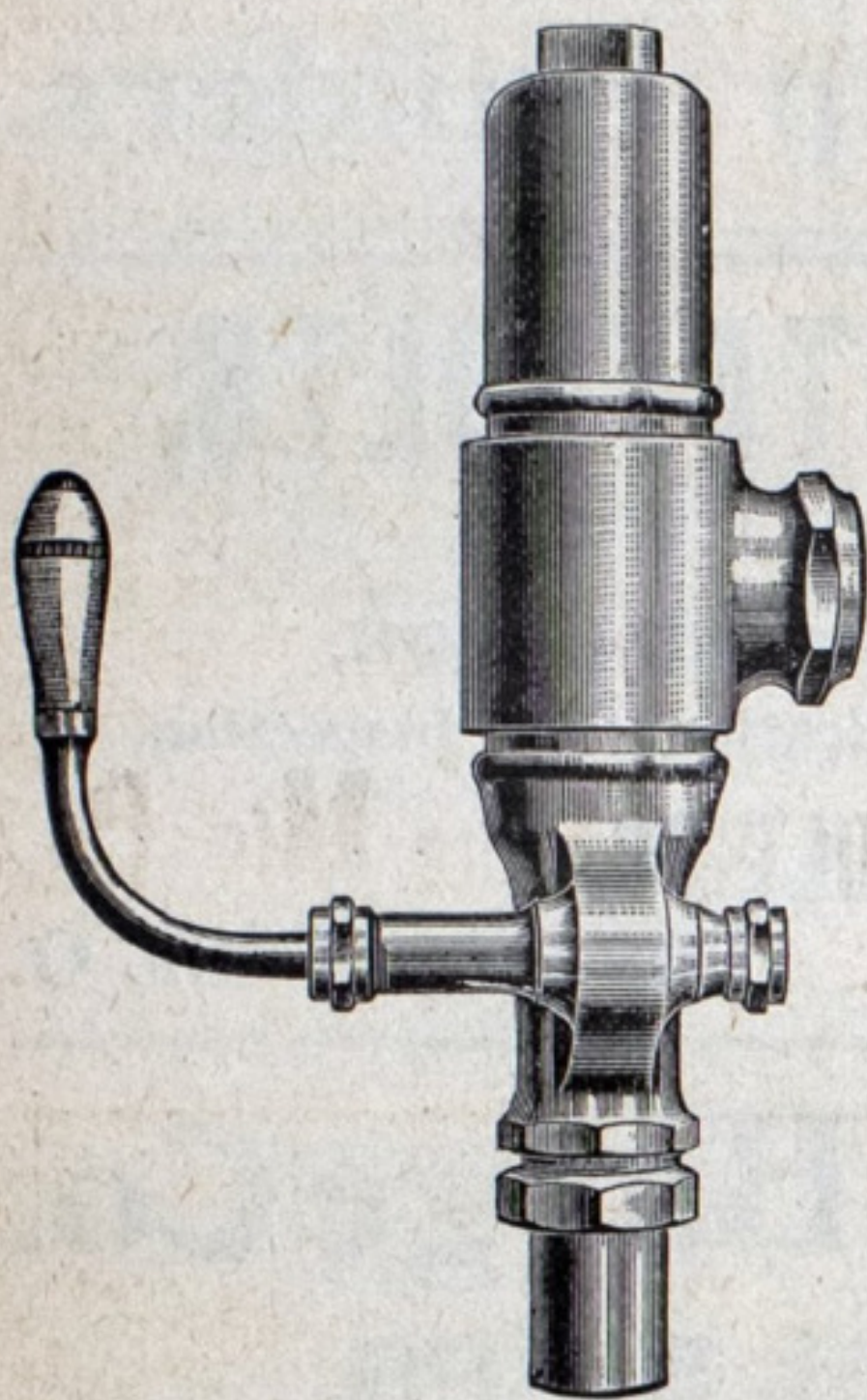
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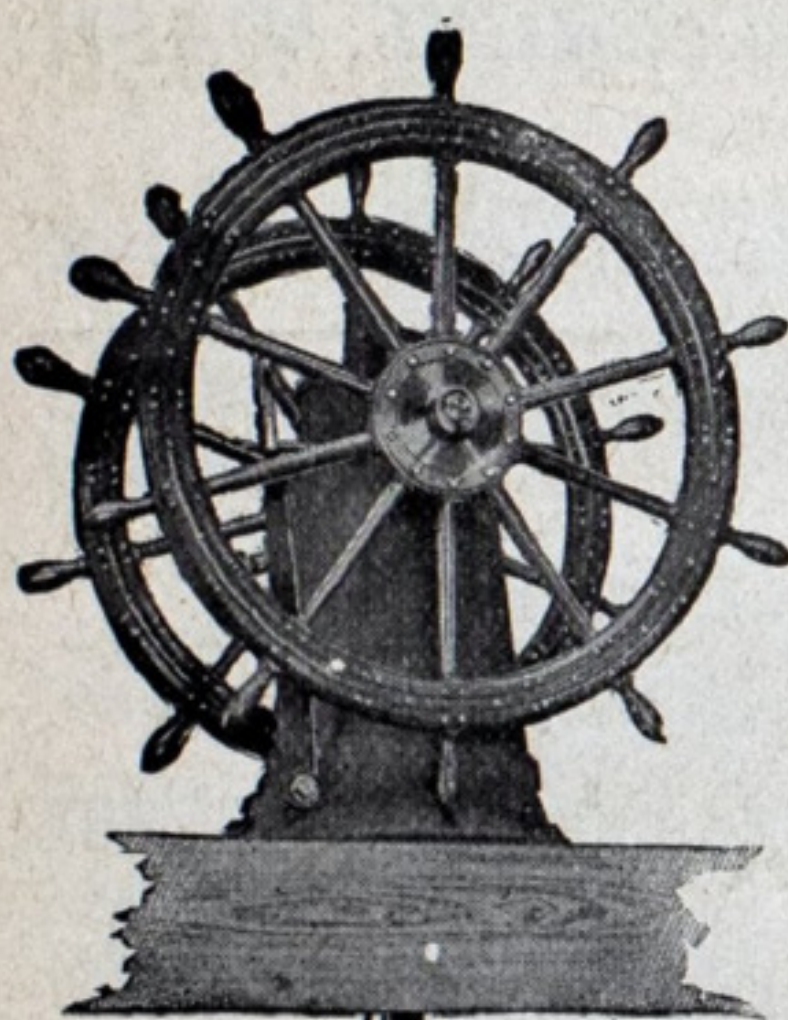
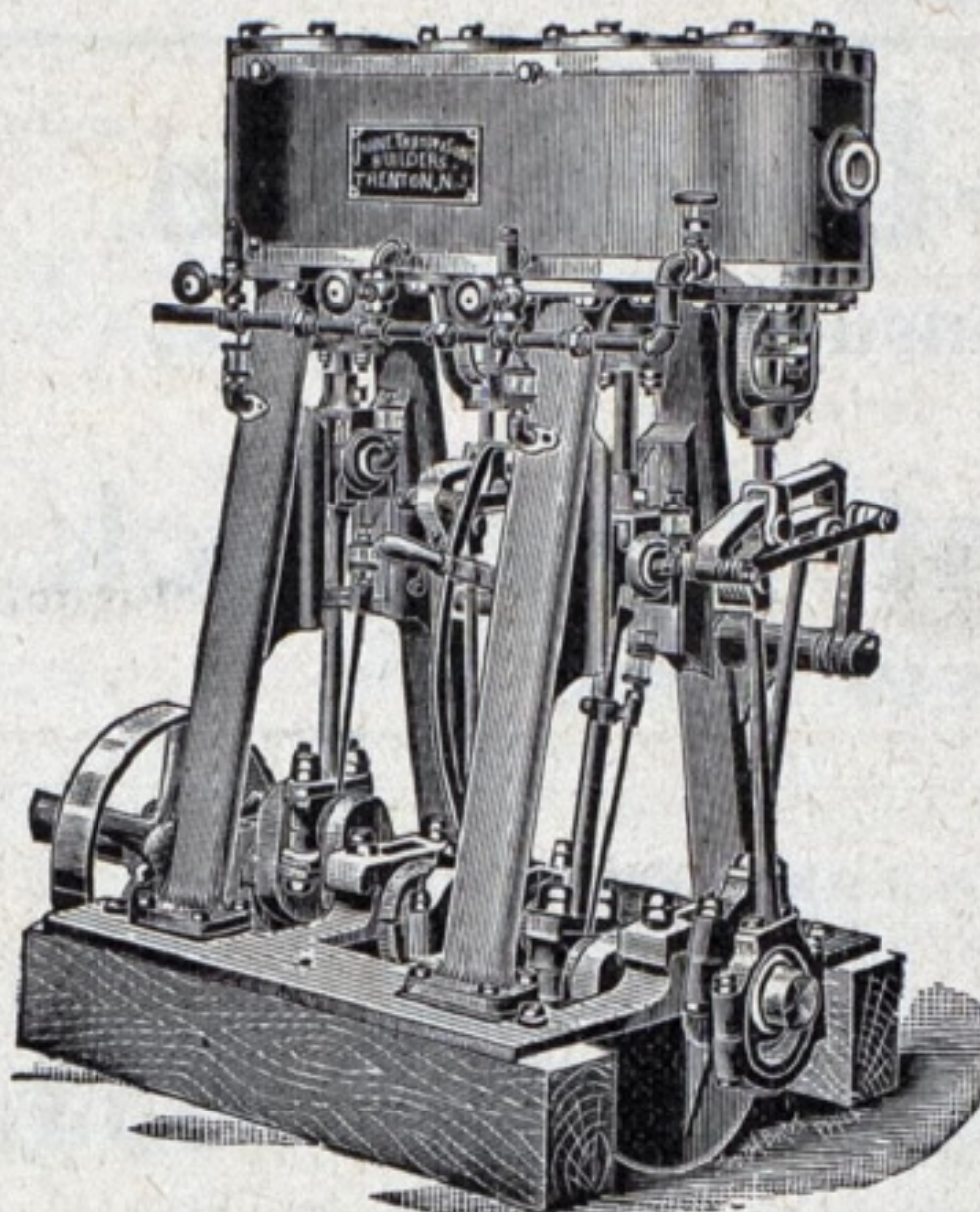
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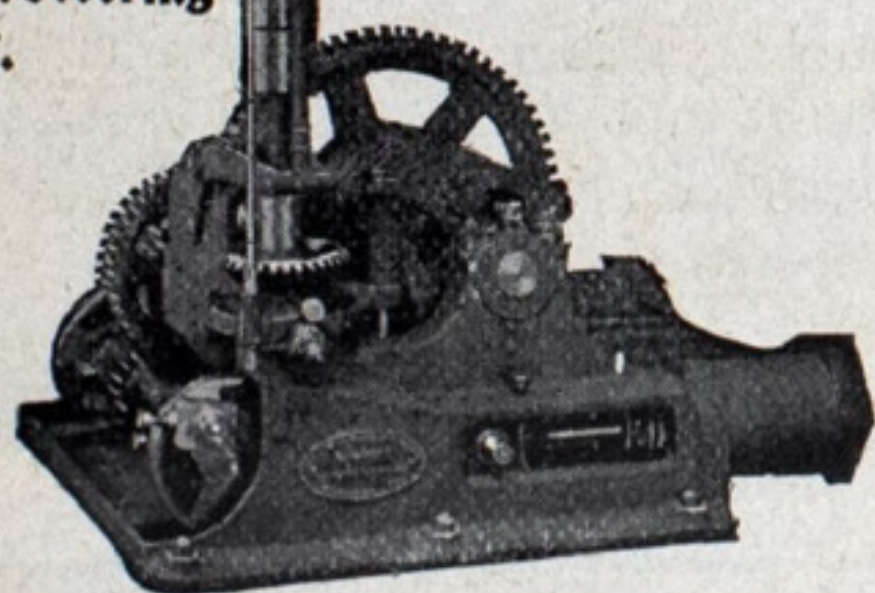
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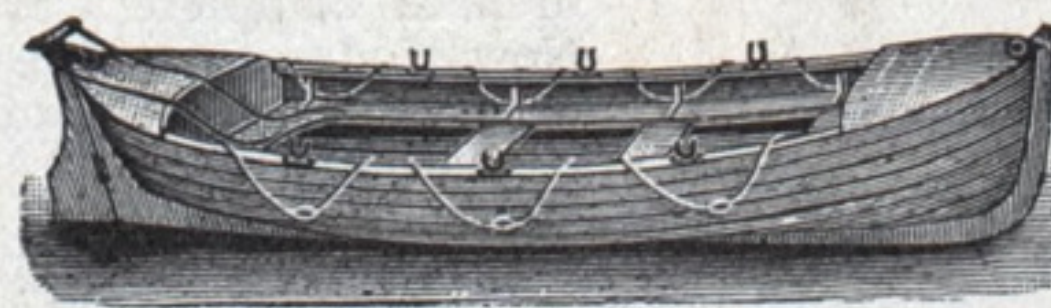
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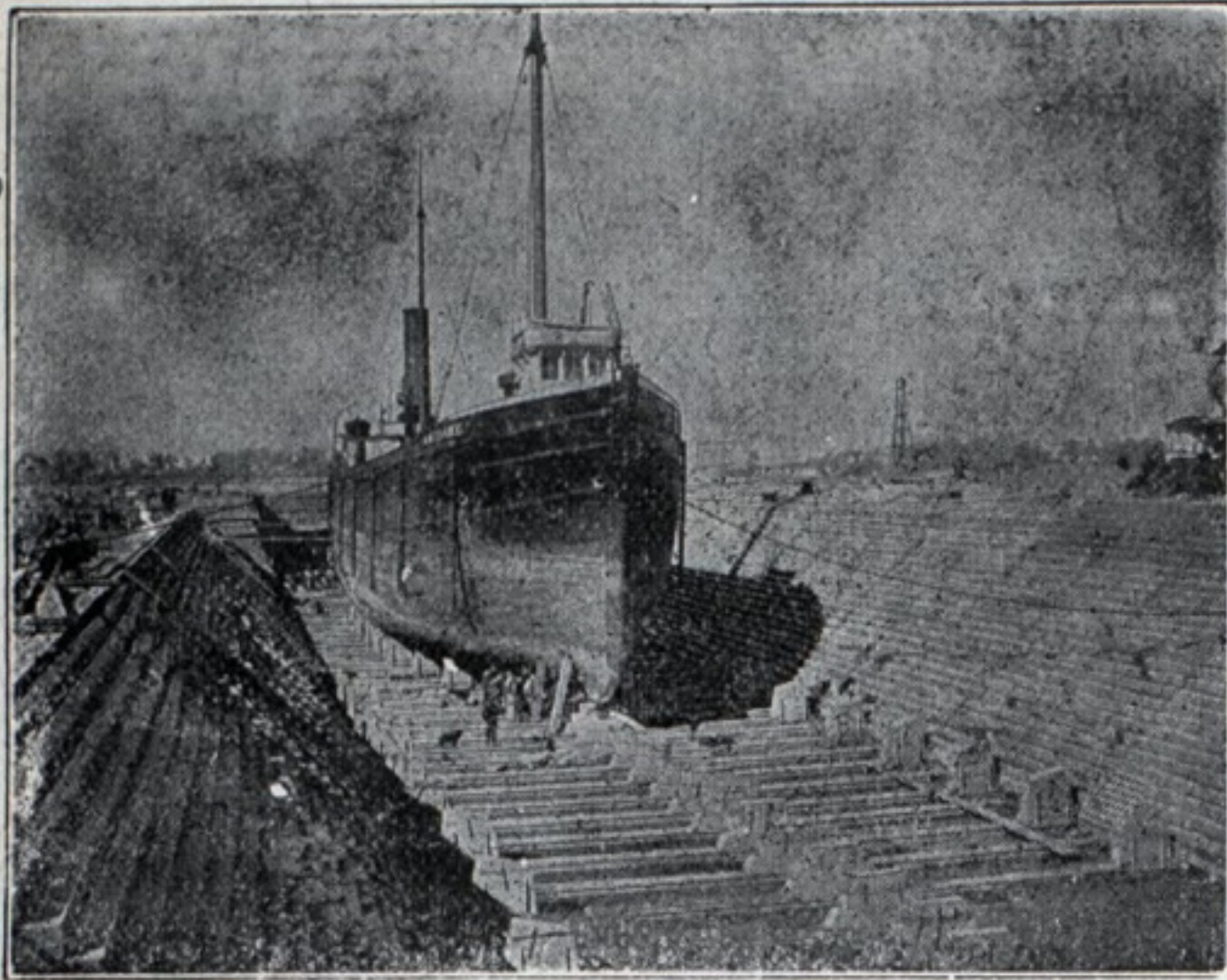
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ALL KINDS OF PLEASURE BOATS, FISHING AND HUNTING BOATS, SHELLS, BARGES, GIGS AND CANOES.

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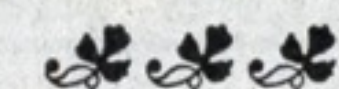
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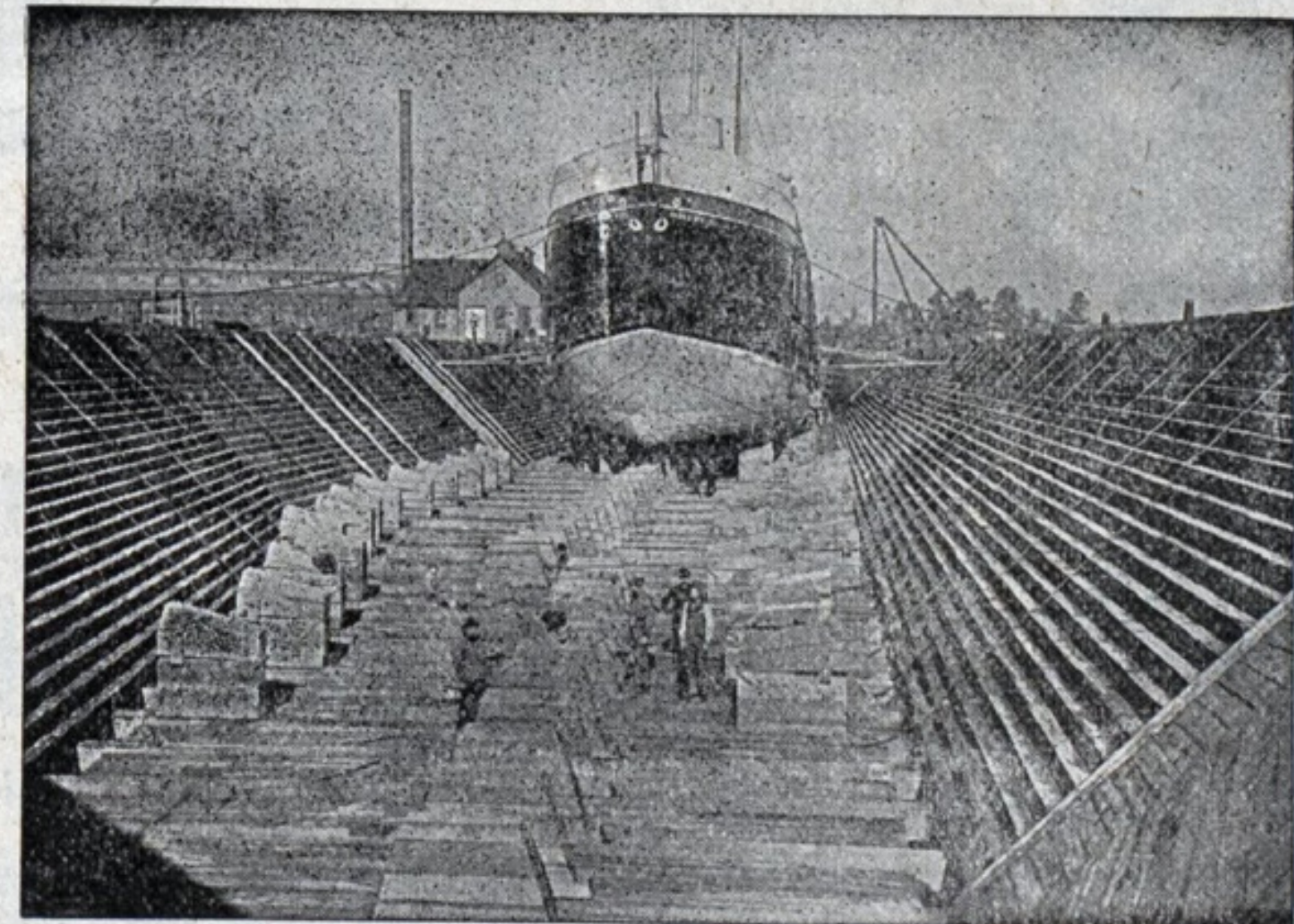
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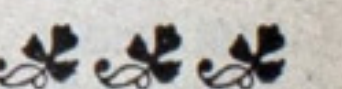
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Best Quality of Oak in Stock for Repairing Wooden Vessels of all Classes.



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Length, Extreme.....	587 feet.	Entrance, Top.....	55 feet 9 in.
Breadth, Top.....	90 " 4 in.	Entrance, Bottom.....	50 "
Breadth, Bottom.....	52 "	Depth over Sills.....	18 "

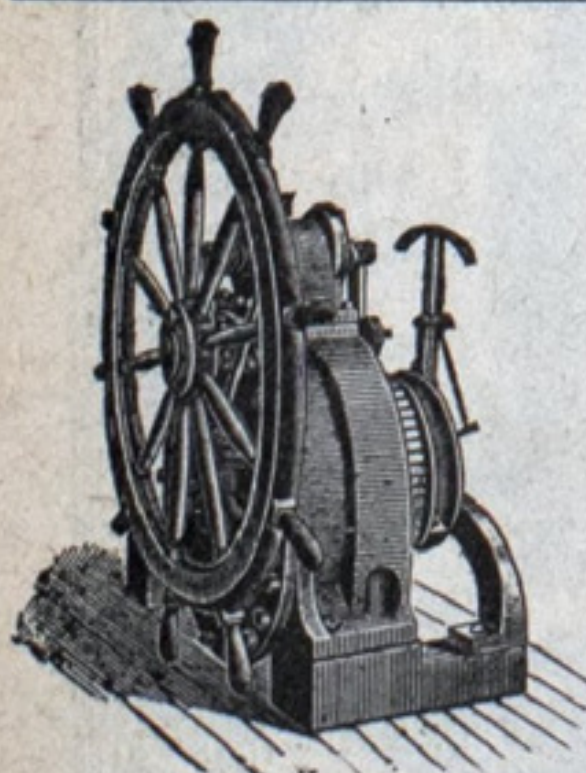
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Prices for Repairs and Docking same as at Lower Lake Ports.

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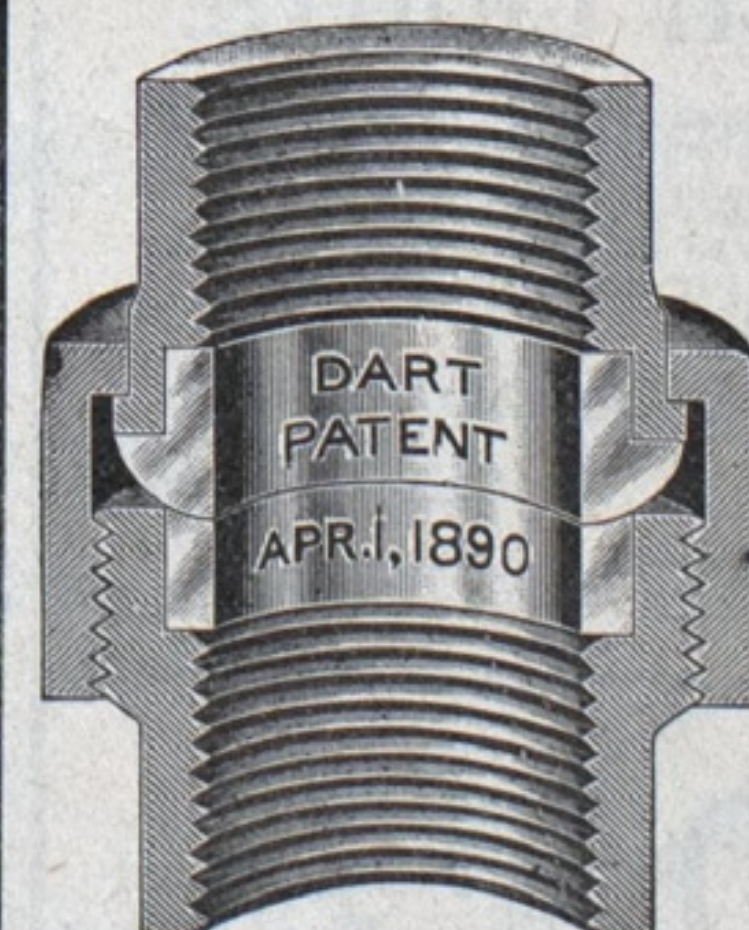
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Generates no heat in pilot house.
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